



CITY OF MANCHESTER.

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# REPORT

ON THE

Health of the City of Manchester,

1917.

BY

JAMES NIVEN, M.A., M.B., LL.D.

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PUBLIC HEALTH OFFICE,  
MANCHESTER,

25th November, 1918.

MY LORD MAYOR, ALDERMEN,  
AND MEMBERS OF THE CITY COUNCIL,

I have the honour to submit to you my Annual Report on the health of Manchester for the year 1917.

The conditions have in some respects been favourable to the health of the civil population during the year 1917. A keen outlook has been maintained on the changing circumstances of families, and wages have been adjusted from time to time so as to meet them. Another factor tending to improvement in the Public Health has been the greatly reduced consumption of alcohol.

On the other hand the strain of work has been very great on a considerable section of the community, and overcrowding has increased. It has also been difficult to secure the carrying out of sanitary works, owing to the shortage of labour and the high price of materials. There has also been a marked deficiency in the medical services.

In effect, notwithstanding retrogression in some directions, particularly in housing, the death-rate of the City has never been so low. The actual figure is in doubt, owing to uncertainty as to the population, but may be put somewhere about 14 per thousand.

On the other hand the birth-rate has sunk to the lowest point yet reached, so that the natural increase of the population is only 2,634.

No satisfactory analysis of the death-rate as regards its incidence on different parts of the City can now be made. To some extent the uncertainty as to the population affects also statements as regards the death-rate from different causes.

But it may be confidently asserted that the upward trend of the death-rate from Tuberculosis has ceased.

From all the ordinary infectious diseases the death-rate was comparatively low.

Infantile mortality was again 111 per 1,000.

The Scheme for Venereal Disease is dealt with fully. It cannot be said that the opportunities for treatment offered have been taken advantage of to the extent which might have been anticipated, and more especially this is true of Gonorrhoea. Nor have the pathological facilities offered been used by practitioners to the extent which was expected. Nevertheless, in the aggregate, much useful work has been done.

The subject of infantile mortality has been again reviewed, but not so fully as for 1916. It will be seen under that section that the infantile mortality from Syphilis has increased.

In every direction the work connected with child welfare has expanded. Thanks are due to the lady doctors of the City for their valuable assistance. A brief report on the scheme for the supply of milk at reduced cost in connection with the Centres is included.

Dr. Sutherland's statement on Tuberculosis deals with several important questions, and special attention is directed to his remarks on after-care. It will be seen from his statement that the administration connected with this disease continues to grow. It has already reached serious magnitude, and must continue to increase more and more as arrears of responsibility continue to be overtaken.

With the assistance of Mr. J. F. Dixon, M.R.C.V.S., of the Markets Department, and of Mr. J. B. Wolstenholme, F.R.C.V.S., the Manchester Milk Clauses have been administered, but not in the manner of the pre-war period. For this several causes are responsible. The absence of Colonel Brittlebank has been severely felt, more particularly on account of the discontinuity of veterinary work. On the other hand the gentlemen named have given most efficient assistance when their services were available.

Inspector Higginbotham has also done most useful work. His work in connection with Army Food Contracts, referred by the Local Government Board, has been very good.

The section of this Report which deals with housing is brief. In the present famine for houses it is impossible to condemn houses unless they are unfit even to shelter the inhabitants.

The usual Annual Reports of the Hospitals are given, cut down as much as possible.

Allusion may be made to the statements on the work of the Sanitary Department and of the Cleansing Department, which, however, present no special feature, except the increase in food adulteration.

The Report of the Midwives Supervising Committee shows a diminution in the number of practising midwives, notwithstanding the scarcity of medical men. The death-rate from Puerperal Fever shows a slight decline. There is also a decline under other accidents of child-birth.

In the dearth of officers it has not been possible to do much more than carry on, so that there are great arrears in important matters.

1. Housing.—A great scheme of housing is urgently required which will provide for the erection ultimately of nearly 17,000 houses, which it is agreed will be wanted, and no time should be lost in erecting as many new houses as possible.

2. It will now be necessary to proceed with the Hospital for Tuberculous Children, and proposals will be submitted at an early date.

3. The scheme for the treatment of Venereal Disease should be definitely brought to completion.

4. Under the new Maternity and Child Welfare Act a considerable extension of the existing scheme is projected by the Memorandum of the Local Government Board.

5. The subject of the milk supply to the population has received much consideration and will require careful handling. It is quite evident that the milk supply is at present in a very unsatisfactory condition.

Such are some of the more immediate questions, all of them of an extensive nature. That we have been able to get through the work as well as we have done is owing to the efficiency and zeal of the Public Health Staff generally.

I have the honour to be, My Lord Mayor,

Your obedient Servant.

JAMES NIVEN.

TABLE OF CONTENTS.

	PAGE
STATISTICAL—(1917) .....	I-7
NOTIFIED INFECTIOUS DISEASES.....	8-18
Smallpox .....	10
Scarlet Fever .....	10-12
Diphtheria and Membranous Croup .....	12-15
Enteric or Typhoid Fever .....	15-17
Bacteriological examinations .....	18
MEASLES AND GERMAN MEASLES .....	19-20
WHOOPING COUGH .....	21
SUMMER DIARRHŒA.....	22-23
OPHTHALMIA NEONATORUM .....	24-29
Cerebro-spinal Fever .....	29
Acute Anterior Poliomyelitis } .....	
VENEREAL DISEASES SCHEME .....	30-49
Outbreak of Scurvy .....	49-51
INFANTILE MORTALITY .....	51-57
WORK OF THE HEALTH VISITORS .....	58-64
Notification of Births Act .....	58
Summer Diarrhœa .....	59
Child Welfare Centres and the Babies' Hospital .....	60
Measles, German Measles, and Whooping Cough .....	60
Cleansing of verminous children .....	61
Neglected children .....	61
Jewish Health Visitors .....	62
Statements of Work done .....	63-64

	PAGE
Distribution of Milk .....	65-66
Child Welfare Centres .....	66-68
Schools for Mothers .....	68-70
Babies' Hospital and Crèche Ward at Monsall .....	70-74
TUBERCULOSIS OF THE LUNGS .....	74-90
Tables regarding.....	75-80
Administrative procedure .....	76-77
Bacteriological examinations .....	18, 76
Cases treated in Crossley Sanatorium, Delamere .....	77, 78
„ „ Baguley „ .....	78
Tuberculosis Medical Officer's Report .....	81-90
After-Care Committee .....	83-85
MILK AND TUBERCULOSIS .....	90-96
And Bacteriological examinations.....	95
INSPECTION OF MILKSHOPS .....	96, 97
INSPECTOR HIGGINBOTHAM'S REPORT .....	97-99
And Work in connection with food supplied to H.M. Forces ..	97
And Farm inspections for Tuberculous Milk .....	98
And Stables and Stable Manure .....	99
THE FACTORY AND WORKSHOP ACT (1901) .....	99-102
HOUSING .....	103-105
Pail-closets and middens converted into W.C.'s .....	104
MEDICAL SUPERINTENDENT'S REPORT ON MONSALL HOSPITAL .....	105-114
MEDICAL SUPERINTENDENT'S REPORT ON BAGULEY SANATORIUM..	114-117
MEDICAL SUPERINTENDENT'S REPORT ON ABERGELE SANATORIUM..	117-123
WORK OF SANITARY DEPARTMENT.....	124-130
WORK OF CLEANSING DEPARTMENT.....	131-132
TABLES .....	133-141
MIDWIVES ACT, 1902, REPORT OF THE EXECUTIVE OFFICER .....	142-146

# LIST OF TABLES.

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	PAGE
Death-rates in the Homes of the People, in Workhouses, and in Hospitals .....	5
Rates of Mortality, Male and Female .....	5
Birth and Death Rates in certain large Towns .....	6
Infantile Mortality .....	7
Infectious Diseases and Deaths .....	8, 9
Scarlet Fever .....	10-12
Diphtheria and Membranous Croup .....	12-15
Enteric Fever .....	16-17
Bacteriological Examinations .....	18
Measles .....	19-20
Whooping Cough .....	21
Diarrhœa .....	22-23
Ophthalmia Neonatorum .....	25-27
Treatment of Venereal Diseases .....	40-45
Showing Work of Health Visitors.....	63, 64
Showing Work of Jewish Health Visitors .....	62
Showing Work of Child Welfare Centres .....	68
Phthisis .....	75-80, 86-90
Percentage of Tuberculous Milk, 1901-1917 .....	94
Milk Examinations for Tubercle Bacilli.....	95
Work done under Factory and Workshop Act, 1901 .....	99-102
Houses closed, demolished, etc., and certified .....	104
Monsall Hospital .....	110-114
Baguley Sanatorium .....	115
Abergele Sanatorium .....	117-119
Work of the Sanitary Department .....	126-128, 130, 141
Deaths, Death-rates.....	134-140
Midwives—Medical Records .....	144

# ANNUAL REPORT.

## STATISTICAL.

The following are general statistics for the year 1917 :—

Area of the City in acres .....	20,799					
Estimated population at the middle of 1917 .....	<table><tr><td>{ Males .....</td><td>366,730 }</td><td rowspan="2">..... 762,349</td></tr><tr><td>{ Females .....</td><td>395,619 }</td></tr></table>	{ Males .....	366,730 }	..... 762,349	{ Females .....	395,619 }
{ Males .....	366,730 }	..... 762,349				
{ Females .....	395,619 }					
No. of persons per acre .....	37					
No. of families or separate occupiers at the Census taking, 1911 ..	152,317					
Persons married per 1,000 of population in the Manchester Union .....	13.56					
Births in the City of Manchester .....	<table><tr><td>{ Males .....</td><td>6,517 }</td><td rowspan="2">..... 12,841</td></tr><tr><td>{ Females.....</td><td>6,324 }</td></tr></table>	{ Males .....	6,517 }	..... 12,841	{ Females.....	6,324 }
{ Males .....	6,517 }	..... 12,841				
{ Females.....	6,324 }					
Annual birth-rate per 1,000 of population .....	16.84					
Deaths .. { Males .....	<table><tr><td>5,345 }</td><td rowspan="2">..... 10,207</td></tr><tr><td>{ Females .....</td><td>4,862 }</td></tr></table>	5,345 }	..... 10,207	{ Females .....	4,862 }	
5,345 }	..... 10,207					
{ Females .....		4,862 }				
Recorded annual death-rate per 1,000 of population.....	<table><tr><td>{ Males ....</td><td>14.57 }</td><td rowspan="2">persons ... 13.39</td></tr><tr><td>{ Females ....</td><td>12.29 }</td></tr></table>	{ Males ....	14.57 }	persons ... 13.39	{ Females ....	12.29 }
{ Males ....	14.57 }	persons ... 13.39				
{ Females ....	12.29 }					
Deaths under 1 year of age per 1,000 births .....	111.29					
Excess of registered births over deaths .....	2,634					
Estimated increase of population during the year .....	7,818					
Percentage mortality occurring in public institutions .....	33.96					
Registrar-General's estimated Civil population.....	660,143					
Death-rate based on Civil population .....	15.46					

On the front page are given the usual figures relating to the health of Manchester during the year 1917.

It will be seen that the birth-rate and death-rate for the year 1917 are much below those recorded in any previous year, if the population be estimated at 762,349, taking the usual calculated rate of increase. If, however, the Registrar-General's estimate be adopted, viz., 660,143, the crude death-rate is lower than in any previous year, and the birth-rate on this estimate is also lower by 3·4 than in 1916. It is very difficult to form an estimate of the population. But it is certain that there is great scarcity of houses at rentals under 8s. 6d.—considerably greater than at the Census. The extent to which houses at a higher rental are available is not so certain, but there is reason to believe that these also are in full demand.

There is a great volume of industry in Manchester, and there are various indications that workers are in much request. On the other hand, in certain departments there is a marked scarcity of men to carry on the business, and it has not been found possible to get an estimate of population by the ordinary interim methods.

So far as one can form a judgment from the known facts, it is probable that the population stands at some intermediate figure between the two estimates, and probably nearer to 762,000 than to 660,000.\*

If this be the case, the death-rate is easily the lowest recorded, while the birth-rate shows a marked decline on any previous year. Whichever estimate be adopted, the death-rate is the lowest on record.

*The marriage-rate shows a decrease on previous years.*

Infantile mortality shows a marked reduction on previous years, except 1916, whether our own figure (111) or the Registrar-General's figure (107) per 1,000 born be accepted.

The chief causes of death are shown on page 3, with comparative figures for 1913, 1914, 1915, and 1916.

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\* An attempt was made in the beginning of September, 1917, to arrive at an estimate as follows:—From information supplied by the Waterworks Department, there were at that time 154,697 houses in occupation, which, taking the Census rate of occupation per house, viz., 4·7, gives 727,076. At the Census there were, otherwise than in private houses, 26,292 persons. Increasing this in the ratio  $\frac{727,076}{719,333}$  we have 26,761. Adding these figures we get 753,837. There may be doubt as to whether the density per house has not diminished. But the impression of the Inspectors of Nuisances is that it has not.

The chief causes of death during the year are shown below compared with the corresponding figures for 1913, 1914, 1915, and 1916 :—

	1913	1914	1915	1916	1917
Tuberculosis of the Lungs .....	1056	1257	1315	1238	1196
Tuberculosis of Organs other than the Lungs .....	383	366	313	348	359
Diseases of the Heart .....	1012	1048	1163	1025	947
Cerebral Hæmorrhage, Apoplexy, Hemiplegia.....	497	490	543	553	604
Pneumonia .....	1178	1289	1089	944	929
Bronchitis .....	1127	1136	1278	1207	1097
Digestive Organs .....	557	538	517	454	396
Atrophy, Debility (chiefly in infants) .....	350	305	277	164	155
Old Age ....	435	502	520	429	439
Premature Birth.....	389	409	350	317	262
Nephritis and Bright's Disease	301	369	369	335	307
Convulsions.....	72	79	58	74	74
Inflammation of the Brain .....	125	110	98	74	76
Diarrhœa and Dysentery.....	622	524	488	313	279
Measles .....	259	293	447	179	277
Scarlet Fever .....	94	160	83	35	15
Whooping Cough .....	139	283	70	300	49
Diphtheria .....	105	111	105	67	63
Influenza.....	122	113	136	133	98
Malignant Disease.....	727	738	775	794	770

It will be noted that the number of deaths from Tuberculosis, though still high, is below that for 1914, 1915, and 1916.

A still further fall occurs in the number of deaths from Pneumonia. There is also a decided drop in the number of deaths from Diseases of the Digestive Organs. From Nephritis the number of deaths is less than in the three previous years. There is also a decline in the mortality from Diseases of the Heart, from Bronchitis, Atrophy and Debility, Prematurity, Diarrhœa and Dysentery, Scarlet Fever, Whooping Cough, Diphtheria, and Influenza. Under Apoplexy there is an increase, while from Old Age and Cancer the mortality remains about the same.

If we compare the death-rates per 1,000 of total population under a number of heads with the average for the years 1907–1916, we see that there is an aggregate gain of 3.57 per 1,000 for the year over the average for ten years. But this is on the assumption that the population is 762,000.

*Gains in 1917 per 1,000 persons living, as compared with the average for the 10 years, 1907-1916—(See Table K).*

Measles .. .. .	0·13
Scarlet Fever .. .. .	0·12
Whooping Cough .. .. .	0·28
Diarrhœal Diseases .. .. .	0·34
Diphtheria .. .. .	0·07
Enteric Fever .. .. .	0·06
Influenza .. .. .	0·03
Erysipelas .. .. .	0·02
Puerperal Fever .. .. .	0·01
Pyæmia .. .. .	0·02
Phthisis .. .. .	0·09
Tubercular Diseases (other) .. .. .	0·06
Alcoholism .. .. .	0·04
Premature Birth .. .. .	0·21
Nervous Diseases .. .. .	0·26
Heart and Blood Vessel Diseases .. .. .	0·14
Bronchitis .. .. .	0·26
Pneumonia .. .. .	0·56
Respiratory Diseases (other) .. .. .	0·05
Digestive System .. .. .	0·21
Urinary System .. .. .	0·06
Total .. .. .	<u>3·02</u>

*Losses in 1917.*

Cancer .. .. .	0·05
Old Age .. .. .	0·04
Total .. .. .	<u>0·09</u>

Balance of Gain from Above Causes .. 2·93

Do. All Causes .. 3·57

The table which enables us to examine the death-rates in the different Sanitary Divisions and districts, broken up into their constituent parts, according as the deaths occurred at home, in workhouse hospitals, or in other institutions, is given only for the three principal divisions of the City. It appears to show an increasing tendency to have recourse to public institutions.

TABLE I.—1917.—DEATH-RATES\* IN THE HOMES OF THE PEOPLE, IN WORK-  
HOUSES, AND IN HOSPITALS FOR THE VARIOUS DIVISIONS OF THE CITY.

STATISTICAL DIVISIONS	Estimated Populations to middle of 1917	Death-rate per 1000 of persons dying in their own homes	Death-rate per 1000 of persons dying in Workhouses	Death-rate per 1000 of persons dying in Hospitals	Total death-rate per 1000	Mean death-rate 1907-1916
City of Manchester. ...	762,349	8·84	2·42	2·13	13·39	16·63
I. Manchester Township..	104,491	11·02	6·33	3·29	20·63	24·38
II. North Manchester .....	220,728	8·47	1·36	1·79	11·62	13·98
III. South Manchester .....	437,130	8·51	2·02	2·02	12·55	15·71

\* In this table, *every death* occurring in a Public Institution has been referred to the District from which the patient originally came.

Table 2 shows that the male and female death-rates stand to each other in much the same relation as in previous years, the ratio of female to male death-rates being practically the same in 1917 as in 1905.

TABLE 2.  
*Annual Death-rates—Male and Female.*

	Male	Female
1905 .. .. .	19·45	16·31
1906 .. .. .	20·65	17·47
1907 .. .. .	19·52	16·40
1908 .. .. .	19·87	16·47
1909 .. .. .	18·88	16·62
1910 .. .. .	17·37	14·51
1911 .. .. .	18·73	15·64
1912 .. .. .	17·68	14·79
1913 .. .. .	17·31	14·35
1914 .. .. .	18·36	15·28
1915 .. .. .	17·62	15·09
1916 .. .. .	15·53	13·68
1917 .. .. .	14·57	12·29

The figures given by the Registrar-General in his Annual Return enable us to institute a comparison with other large centres.

The figures do not always agree exactly with our local figures, for reasons given in the Statistical introduction. Probably, however, other centres are affected in the same way as Manchester.

The following table taken from the Annual Return shows a number of facts for 1917, which year Manchester stood fairly well in a comparison with other towns, and very well in a comparison of the figures with those of previous years:—

TABLE 3.—BIRTH AND DEATH RATES IN CERTAIN LARGE TOWNS FOR THE YEAR 1917, BASED ON THE CIVIL POPULATIONS.  
(Taken from the Summary of the Registrar-General.)

Towns	Civil Population 1917	Births	Deaths	Enteric Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Diarrhoea and Enteritis under two years of age (Rate per 1,000 births)	Deaths under one year (Rate per 1,000 births)
London	4,026,901	17.5	15.0	0.02	0.48	0.02	0.13	0.14	18.70	103
Bristol	334,814	18.2	13.6	0.01	0.00	0.01	0.17	0.07	8.69	98
Stoke	215,116	23.2	16.3	0.02	0.21	0.06	0.42	0.32	9.41	116
Birmingham	870,211	20.9	12.7	0.01	0.38	0.01	0.15	0.13	14.00	98
Leicester	212,433	17.4	13.6	0.01	0.48	0.01	0.16	0.08	20.08	104
Nottingham	236,853	17.8	15.2	0.00	0.44	0.03	0.28	0.07	14.02	126
Liverpool	716,140	25.0	18.0	0.02	0.60	0.11	0.18	0.19	22.74	114
Manchester	660,143	19.9	15.1	0.02	0.43	0.02	0.07	0.09	20.02	108
Salford	211,373	20.6	15.1	0.05	0.65	0.01	0.24	0.06	24.16	124
Bradford	266,338	14.6	15.0	0.01	0.43	0.01	0.11	0.14	7.47	131
Leeds	417,051	18.4	16.6	0.01	0.64	0.02	0.16	0.13	20.91	131
Sheffield	469,293	23.3	14.3	0.03	0.30	0.03	0.10	0.08	20.00	104
Hull	246,357	21.1	16.1	0.06	0.01	0.03	0.37	0.10	30.40	121
Sunderland	141,765	24.4	18.0	0.01	0.97	0.02	0.08	0.09	24.55	129
Newcastle	266,551	24.6	15.0	0.00	0.29	0.07	0.21	0.12	16.19	112
South Shields	106,500	25.2	17.8	0.01	1.22	0.01	0.18	0.07	16.78	135
Edinburgh	331,800†	14.8	14.9	0.01	0.63	0.05	0.58	0.20	8.96	123
Glasgow	1,115,800†	21.5	15.0	0.01	0.56	0.03	0.77	0.14	15.52	128
Dublin (Registration area).	399,000†	23.4	19.2	0.05	0.56	0.02	0.19	0.08	34.36	139
Belfast	393,000†	22.2	16.7	0.10	0.25	0.03	0.15	0.06	17.44	130

† Total Populations.

Table 4 shows a steady tendency downwards of infantile mortality in recent years, a matter for congratulation.

TABLE 4.—INFANTILE MORTALITY.

*Deaths per 1000 births at the ages 0-2 months, 3-5 months, and 6-11 months, in successive years.*

YEARS	Months of Age			
	0-2	3-5	6-11	Under 1 year
1891-95 (mean) .. ..	82.79	40.99	62.97	186.75
1896 .. .. .	78.71	38.11	59.31	176.13
1897 .. .. .	82.31	42.43	69.89	194.63
1898 .. .. .	86.64	42.72	66.51	195.87
1899 .. .. .	88.14	46.49	70.79	205.42
1900 .. .. .	81.42	42.42	64.91	188.75
1901 .. .. .	88.90	42.96	66.60	198.46
1902 .. .. .	73.49	32.23	45.73	151.45
1903 .. .. .	79.91	36.37	52.25	168.53
1904 .. .. .	84.37	42.01	60.34	186.72
1905 .. .. .	78.42	34.05	46.28	158.75
1906 .. .. .	78.65	35.77	54.68	169.10
1907 .. .. .	73.91	30.46	43.07	147.44
1908 .. .. .	76.20	30.09	46.16	152.45
1909 .. .. .	73.20	25.37	36.98	135.55
1910 .. .. .	67.50	23.90	40.44	131.84
1911 .. .. .	79.50	31.81	44.80	156.11
1912 .. .. .	65.31	19.70	37.26	122.30
1913 .. .. .	68.76	24.42	35.52	128.70
1914 .. .. .	68.19	23.16	37.28	128.63
1915 .. .. .	64.38	22.83	41.43	128.64
1916 .. .. .	61.55	18.50	31.22	111.24
1917 .. .. .	60.20	18.77	32.32	111.29

It has been usual to show the number and distribution of deaths occurring in institutions. This table has been prepared, but is not given for the present year. The number of these deaths was greater than in 1915 but less than in 1916.

Tables D and J in the Appendix give materials for a consideration of the course of infant mortality, in regard to which there is at present an intense interest which is not likely to diminish.

If we compare the figures in Table D with those for years prior to 1916 we find a great reduction in mortality throughout the first year of life, most conspicuous in the first three months, but well marked also in the later periods.

## INFECTIOUS DISEASES.

The diseases included in the Infectious Disease (Notification) Acts, 1889 and 1899, are as follows: Smallpox, Scarlet Fever, Diphtheria, Membranous Croup, Typhus Fever, Enteric Typhoid Fever, Relapsing Fever, Continued Fever, Puerperal Fever, Erysipelas, and Asiatic Cholera, to which have been added Ophthalmia Neonatorum, Cerebro-Spinal Fever and Poliomyelitis. The following cases were notified in 1917, and the numbers compared with the average of the previous ten years:—

	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	Average for 10 Years	1917
Smallpox .....	5	...	...	...	..	1	1	...	...	...	1	..
Scarlet Fever ...	2,732	2,893	3,700	2,324	1,939	1,840	3,715	4,712	2,922	1,185	2,796	8
Diphtheria..... Memb. Croup )	499	546	598	498	472	474	650	746	548	614	565	5
Typhus Fever ...	1	...	20	2	10	...	...	1	...	...	3	...
Enteric Fever ...	265	393	369	358	256	242	292	156	174	78	258	...
Relapsing Fever	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Fever	95	101	84	131	130	124	124	104	94	99	109	...
Erysipelas .....	337	364	371	407	442	396	412	551	492	320	409	2
Ophthalmia Neonatorum	...	...	...	246	443	503	331	414	414	379	390	3
Cerebro-Spinal Fever	...	...	...	...	...	6	1	2	15	8	6	...
Poliomyelitis ...	...	...	...	...	...	55	6	12	8	9	18	1
	3,934	4,297	5,142	3,966	3,692	3,641	5,532	6,698	4,667	2,692	4,555	2,111

The Annual Return of the Local Government Board dealing with notifiable diseases supplies the means of comparison with other localities, and also the means of ascertaining whether the numbers increase or decrease in the same manner for the whole country as for Manchester. It would be unreasonable to expect that the correspondence should be close, as some infectious diseases have epidemic waves differing in epoch as between one district and another.

As a matter of fact, the curves of Scarlet Fever incidence for the whole country for London and for Manchester for 1911 and subsequent years rise and fall synchronously, though the shapes of the curves are different.

The notification rate per 1,000 of the population for the year 1917 was 1.33 for Manchester, being lower than the rates for London and for the aggregate of 82 county boroughs, a very unusual occurrence. It was, however, higher than the notification rate for Salford, Bradford, and Nottingham.

The numbers of notifications of cases of Diphtheria, year by year, for Manchester and the whole country also show a general parallelism, but not so close as in the case of Scarlet Fever. From this disease also the notification rate in Manchester was comparatively low, being 0.92, as against 1.23 for England and Wales and 2.06 for London. Salford had the very low rate of 0.59 per 1,000.

From Enteric Fever the notification rate was 0.14 for England and Wales, 0.11 for London, and 0.11 for the aggregate of 82 county boroughs. For Manchester it was 0.15, a comparatively low figure for this City. I have adhered to the term notification rate, as I am not certain that this means quite the same as rate of incidence. From Enteric Fever also the course of the numbers notified year by year is generally the same for Manchester and for the country generally, except that the fall in the numbers notified has been especially steep in Manchester.

It is satisfactory to find that the notifications of Puerperal Fever have fallen to half their former number; that is to say, if we may assume that there is no departure from the strictness of notification hitherto adopted. Erysipelas also shows a decline in numbers. No change has occurred in the notifications of Cerebro-spinal Fever, though a slight rise occurs in the number of cases of Poliomyelitis.

It will be seen that the incidence of Infectious Disease generally is unprecedentedly low. Very notable are the figures for Enteric Fever and Scarlet Fever.

The deaths from the more common diseases are shown in the following figures:—

Years	Measles	Scarlet Fever	Diphtheria	Enteric Fever	Smallpox	Whooping Cough	Diarrhoea	Phthisis
1907-16 average	329	90	102	51	...	299	487	1145
1917	277	15	63	10	...	49	279	1196

These figures tend to indicate that the great fall in the numbers notified is real, and is not produced by temporary causes, other than the actual incidence of disease.

## SMALLPOX.

No cases of Smallpox were notified during the year 1917.

## SCARLET FEVER.

The following figures show the course of the disease in quarters :—

TABLE 1.—SCARLET FEVER.—ATTACKS IN QUARTERS ACCORDING TO DATE OF RASH.

Year	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
1916 ..	353	323	277	232	1185
1917 ..	174	140	164	351	829

This table shows a departure from that uniformity of incidence throughout the year remarked upon for 1916 as being a feature of the lowest and highest points of the Scarlet Fever periodic wave.

During 1917 the rate of attack from Scarlet Fever was lower than in the towns used for comparison, and was highest in North Manchester.

TABLE 2.—SCARLET FEVER ATTACKS, 1917.—RATES PER 1,000 LIVING, AS COMPARED WITH THE MEAN FOR FIVE YEARS.

	1912	1913	1914	1915	1916	Mean	1917
Twelve Towns * .....	2·75	3·47	4·86	3·49	1·81	3·28	†1·69
City of Manchester ...	2·74	5·40	6·89	3·91	1·57	4·10	†1·26
Manchester Township .....	2·74	4·30	5·05	3·09	1·90	3·42	0·90
North Manchester .....	3·38	8·64	7·46	4·47	2·01	5·19	1·21
South Manchester .....	2·38	3·89	7·13	3·84	1·27	3·70	1·07

\* These are Blackburn, Bolton, Bradford, Burnley, Halifax, Hull, Leeds, Liverpool, Oldham, Preston, Salford, and Sheffield.

† Based on Civil Populations.

TABLE 3.—1917—SCARLET FEVER ATTACKS IN DISTRICTS, WITH ATTACK RATE, CASE FATALITY PER CENT., AND REMOVALS TO HOSPITAL PER CENT.

DISTRICTS		ATTACKS	ATTACK RATE PER 1,000 LIVING	† CASE FATALITY PER CENT.	REMOVALS TO HOSPITAL PER CENT.
Man- chester Township	Ancoats .....	21	0·55	...	85·7
	Central .....	15	0·82	6·7	86·7
North Manchester	St. George's .....	58	1·22	3·4	84·5
	Cheetham .....	55	1·20	5·5	89·1
	Crumpsall .....	11	1·00	...	72·8
	Blackley .....	39	2·37	...	71·8
	Harpurhey .....	22	1·22	9·1	90·9
	Moston .....	23	0·76	4·3	82·6
	Newton Heath ...	40	0·90	...	75·0
	Bradford .....	44	1·69	...	93·2
	Beswick .....	11	0·90	...	81·8
	Clayton .....	21	1·32	4·8	85·7
South Manchester	Ardwick .....	31	0·79	3·2	83·8
	Openshaw .....	45	1·35	4·4	80·0
	Gorton (West) ...	23	0·86	...	87·0
	Rusholme & Kirk.	40	0·83	...	72·5
	Chorlton-on-Med.	54	1·01	...	79·6
	Hulme .....	68	1·10	2·9	92·6
	Moss Side .....	28	0·74	...	50·0
	Withington.....	86	1·41	...	55·8
	Gorton .....	65	1·28	...	72·3
City of Manchester ...		829	1·09	1·8	77·9

† Corrected ; the fatal cases are those actually occurring amongst the cases notified.

Notwithstanding the low total incidence of Scarlet Fever, it has not been found necessary to remove to Hospital more than 77·9 per cent. of the cases, which may be taken to imply that a fairly high proportion of the cases occurred under conditions permitting of satisfactory isolation at home.

The case fatality is decidedly lower than the mean for the past ten years.

TABLE 3A.

Year.....	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	Mean	1917
Case fatality per cent.	3·6	3·6	4·1	3·4	1·8	2·8	2·5	3·1	2·7	3·0	3·1	1·8

Table 5 gives a comparison of the death-rates from Scarlet Fever in different areas, and shows that the death-rate closely approximates to that of the entire country.

TABLE 5.—SCARLET FEVER MORTALITY, 1917.—RATE PER 1,000 LIVING, COMPARED WITH MEAN OF FIVE YEARS.

	1912	1913	1914	1915	1916	Mean	1917
England and Wales.....	0·05	0·06	0·08	0·06	0·04	0·06	0·02
96 Great Towns .....	0·06	0·07	0·09	0·07	0·04	0·07	0·03
London.....	0·04	0·04	0·07	0·07	0·03	0·05	0·02
<b>Manchester City</b> .....	0·07	0·13	0·22	0·11	0·05	0·12	0·02
Manchester Township .....	0·13	0·16	0·17	0·07	0·13	0·13	0·03
North Manchester .....	0·09	0·19	0·22	0·17	0·05	0·14	0·04
South Manchester .....	0·04	0·09	0·23	0·09	0·02	0·09	0·01
146 Smaller Towns .....	0·05	0·05	0·07	0·07	0·04	0·05	0·02

## DIPHTHERIA AND MEMBRANOUS CROUP.

The usual tables for this disease are again given.

The following table shows the number of cases notified each year for the last ten years :—

1908	1909	1910	1911	1912	1913	1914	1915	1916	1917
546	598	498	472	474	650	746	548	614	581

TABLE I.

DIPHTHERIA, MEMB. CROUP, 1917.—ATTACKS IN WEEKS, ACCORDING TO DATE OF ONSET.

FIRST QUARTER			SECOND QUARTER		THIRD QUARTER		FOURTH QUARTER	
Jan.	6	2	April	7	15	July	7	10
„	13	11	„	14	5	„	14	6
„	20	13	„	21	6	„	21	11
„	27	11	„	28	8	„	28	12
Feb.	3	11	May	5	9	Aug.	4	10
„	10	14	„	12	15	„	11	5
„	17	8	„	19	11	„	18	2
„	24	17	„	26	4	„	25	7
March	3	13	June	2	9	Sept.	1	10
„	10	12	„	9	10	„	8	10
„	17	20	„	16	8	„	15	11
„	24	14	„	23	8	„	22	8
„	31	14	„	30	9	„	29	10
Total...	160		Total...	117		Total...	112	
							Total...	192

City total, 581.

TABLE II.

SHOWS THE ATTACK RATE PER 1,000 LIVING FOR THE YEAR 1917, COMPARED WITH THE MEAN OF FIVE YEARS—DIPHTHERIA AND MEMBRANOUS CROUP.

	1912	1913	1914	1915	1916	Mean	1917
*Twelve Notification Towns ...	1·17	1·43	1·47	1·39	1·13	1·32	†1·09
City of Manchester .....	0·71	0·94	1·09	0·73	0·81	0·86	†0·88
Manchester Township.....	0·51	0·73	0·83	0·85	0·95	0·77	0·78
North Manchester .....	0·66	1·06	1·46	1·00	0·97	1·03	0·99
South Manchester .....	0·79	0·94	0·96	0·58	0·70	0·79	0·64

\* These are in Lancashire and Yorkshire.

† Based on the Civil Population. Otherwise the Rates are here based on the Census figures.

The following table shows that the attack rate is highest at ages 3 to 5 :—

TABLE III.

DIPHTHERIA, MEMB. CROUP, 1917.—NUMBER OF ATTACKS, OF DEATHS, AND CASE FATALITY AT DIFFERENT AGES, FOR THE TWENTY-FIVE YEARS 1891-1916, AND FOR 1917.

AGES	1891-1916			1917		
	ATTACKS	DEATHS	CASE FATALITY*	ATTACKS	DEATHS	CASE FATALITY*
Under one year ...	326	211	64·7	11	6	54·5
1 to 2 years ...	970	501	51·7	37	10	27·0
2 to 3 „ ...	1150	433	37·7	50	5	10·0
3 to 4 „ ...	1386	422	30·5	59	10	16·9
4 to 5 „ ...	1410	367	26·0	69	4	5·8
5 to 6 „ ...	1264	289	22·9	63	8	12·7
6 to 7 „ ...	926	157	17·0	53	4	7·5
7 to 8 „ ...	697	103	14·8	40	5	12·5
8 to 9 „ ...	582	82	14·1	24	3	12·5
9 to 10 „ ...	423	51	12·1	24	1	4·2
10 to 15 „ ...	1179	72	6·1	76	3	3·9
15 to 20 „ ...	586	29	4·9	23	1	4·3
20 to 25 „ ...	466	14	3·0	16	1	6·3
25 to 35 „ ...	627	19	3·0	19	1	5·2
35 to 45 „ ...	250	5	2·0	12	1	8·3
45 and over ...	116	9	7·8	5	...	...
All ages .....	12358	2764	22·4	581	63	10·8

\* The percentages in this column are the actual proportions of fatal cases to the attacks at those ages.

The case fatality at all ages since 1901 has been as follows:—

1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917
28·8	29·4	21·9	20·7	22·4	21·1	20·4	21·8	17·9	19·9	16·5	20·0	14·9	14·3	18·8	11·7	10·8

From the following table we see that the apparent incidence of the disease was greatest in the districts of Blackley, Newton, Clayton, and Ancoats. The percentage of removals is 75·6, a high figure, and one which is satisfactory. The disease is one which yields good results to isolation, and care in removing infection.

TABLE IV.

DIPHTHERIA AND MEMBRANOUS CROUP, 1917.—ATTACKS IN DISTRICTS, WITH ATTACK RATE, CASE FATALITY PER CENT., AND REMOVALS TO HOSPITAL PER CENT.

DISTRICTS		ATTACKS	Deaths	ATTACK RATE PER 1000 LIVING	† CASE FATALITY PER CENT.	REMOVALS TO HOSPITAL PER CENT.
Man- chester Township	Ancoats .....	39	3	1·01	7·7	92·3
	Central .....	12	1	0·66	8·3	100·0
	St. George's .....	31	2	0·65	6·5	87·1
North Man- chester	Cheetham .....	44	4	0·96	9·1	77·3
	Crumpsall .....	7	...	0·63	...	42·9
	Blackley .....	34	2	2·07	5·9	85·3
	Harpurhey .....	6	1	0·33	16·7	83·3
	Moston .....	30	4	0·99	13·3	86·6
	Newton Heath...	58	3	1·30	5·2	84·5
	Bradford .....	14	3	0·54	21·4	92·8
	Beswick .....	7	3	0·57	42·9	85·7
	Clayton .....	19	4	1·19	21·1	89·5
	Ardwick .....	28	5	0·71	17·9	89·3
South Man- chester	Openshaw .....	24	3	0·72	12·5	79·2
	Gorton (West) ...	19	2	0·71	10·5	73·7
	Rusholme & Kirk.	18	4	0·37	22·2	44·5
	Chorlton-on-Med	31	4	0·58	12·9	61·3
	Hulme .....	41	8	0·67	19·5	85·4
	Moss Side .....	17	...	0·45	...	47·1
	Withington .....	30	1	0·49	3·3	30·0
	Gorton .....	47	3	0·93	6·4	65·9
City of Manchester...		581	63	0·76	10·8	75·6

† Corrected : the fatal cases are those actually occurring amongst the cases notified.

The figures given below show that in 1917 Manchester had a death-rate from Diphtheria differing little from that which held for England generally.

TABLE V.

DIPHTHERIA, MEMB. CROUP MORTALITY, 1917.—RATE PER 1000 LIVING  
COMPARED WITH MEAN OF FIVE YEARS.

	1912	1913	1914	1915	1916	Mean	1917
England and Wales .....	0·11	0·12	0·15	0·15	0·14	0·13	0·13
96 Great Towns .....	0·13	0·13	0·16	0·16	0·15	0·15	0·13
London .....	0·10	0·09	0·16	0·16	0·14	0·13	0·14
Manchester City .....	0·13	0·14	0·15	0·14	0·09	0·13	0·08
Manchester Township .....	0·17	0·15	0·20	0·25	0·13	0·18	0·07
North Manchester.....	0·12	0·18	0·22	0·20	0·10	0·16	0·11
South Manchester.....	0·13	0·12	0·10	0·09	0·07	0·10	0·07
146 Smaller Towns .....	0·11	0·11	0·16	0·15	0·15	0·14	0·13

ENTERIC FEVER.

The number of cases of Enteric Fever occurring during 1917 was 86, which shows a great reduction on the number notified in any previous year except 1916. In addition, one military case infected outside Manchester came to our knowledge.

Table I. shows the attack and death-rates compared with those of England and Wales.

TABLE I.

INCIDENCE OF AND DEATH-RATE FROM ENTERIC FEVER IN MANCHESTER.  
*Number of notified cases, deaths, and death-rates per 1,000 living from Enteric Fever in each of seventeen successive years.*

YEAR	1900	1901	1902	1903	1904	1905	1906	1907	1908
No. of cases notified	378	359	378	387	325	345	384	265	393
No. of deaths. ....	75	75	66	93	66	55	83	37	75
Death - rate — Manchester .....	0·14	0·14	0·12	0·17	0·12	0·09	0·14	0·06	0·11
Death - rate — England and Wales...	0·17	0·16	0·13	0·10	0·09	0·09	0·09	0·07	0·07

  

YEAR	1909	1910	1911	1912	1913	1914	1915	1916	1917
No. of cases notified and accepted . .	369	358	256	242	292	156	174	78	86
No. of deaths . . . .	71	62	46	43	47	34	46	22	10
Death-rate — Manchester . . . . .	0·13	0·09	0·07	0·06	0·06	0·05	0·06	0·03	0·01
Death-rate — England and Wales..	0·06	0·05	0·07	0·04	0·04	0·05	0·04	0·03	0·03

Other tables which it has been customary to print have been compiled and recorded in the Office.

#### *Distribution.*

13 cases occurred in Newton Heath, 11 in St. George's, 10 in Chorlton-on-Medlock, and 8 in Openshaw; the remainder were fairly distributed over 18 other districts.

Tabulation of the attacks according to the dates of onset shows that in the first quarter there were 18 cases; second quarter, 36; third quarter, 15; fourth quarter, 17. The usual autumnal rise was again absent.

TABLE II.

ENTERIC FEVER, 1917.—NUMBER OF ATTACKS IN DISTRICTS, WITH ATTACK RATE, CASE FATALITY PER CENT., AND REMOVALS TO HOSPITAL PER CENT.

DISTRICTS	ATTACKS	ATTACK RATE PER 1,000 LIVING	DEATHS	† CASE FATALITY PER CENT.	REMOVALS TO HOSPITAL PER CENT.	MEAN ATTACK RATE 1907-1916.
Ancoats .....	5	0·13	1	20·0	80·0	0·59
Central.....	2	0·11	...	...	50·0	0·54
St. George's.....	11	0·23	...	...	90·9	0·55
Cheetham .....	4	0·09	...	...	75·0	0·27
Crumpsall .....	3	0·27	1	33·3	100·0	0·51
Blackley.....	2	0·12	1	50·0	100·0	0·32
Harpurhey.....	...	...	...	...	...	0·25
Moston.....	1	0·03	...	...	100·0	0·18
Newton Heath .....	13	0·29	3	23·1	76·9	0·35
Bradford .....	4	0·15	...	...	100·0	0·40
Beswick .....	4	0·33	...	...	75·0	0·29
Clayton .....	...	...	...	...	...	0·33
Ardwick.....	2	0·05	1	50·0	100·0	0·39
Openshaw .....	8	0·24	...	...	87·5	0·65
Gorton (West).....	2	0·08	...	...	100·0	0·54
Rusholme and Kirkman.	1	0·02	...	...	100·0	0·26
Chorlton-upon-Medlock	10	0·19	...	...	100·0	0·37
Hulme .....	9	0·15	2	22·2	77·8	0·51
Moss Side.....	...	...	...	...	...	0·25
Withington .....	1	0·02	...	...	...	0·07
Gorton .....	3	0·06	1	33·3	66·7	0·30
Levenshulme .....	1	0·04	...	...	100·0	0·12
<b>City of Manchester..</b>	<b>86</b>	<b>0·11</b>	<b>10</b>	<b>11·6</b>	<b>84·9</b>	<b>0·39</b>

† Corrected ; the fatal cases are those actually occurring amongst the cases notified.

The incidence of the disease on different Sanitary Districts is shown in Table II. It will be seen that the disease was widely scattered, though it affected more especially St. George's, Newton Heath, Openshaw, Chorlton-upon-Medlock, and Hulme. There is much shifting of incidence from year to year, and it is probable that the medium of spread varies much from one year to another.

Table III. shows at what ages Enteric Fever appears to be most prevalent, and also at what ages it is most fatal. It prevails from early infancy, is least fatal at school ages, and continues to become more fatal with advancing years. It appears to reach its acme of prevalence at the ages 20-25, and it is possible that the decline in numbers after this age is due to the number of those who have undergone protection.

(Table omitted.)

BACTERIOLOGICAL EXAMINATIONS MADE FOR THE COUNTY BOROUGH OF MANCHESTER DURING THE YEAR 1917,  
PUBLIC HEALTH LABORATORY, UNIVERSITY OF MANCHESTER.

Month	Diphtheria			Typhoid			Tuberculosis						Venereal Diseases					
							Sputum			Milk			Fixation of Complement			Gonococcus		
	+	—	Total	+	—	Total	+	—	Total	+	—	Total	+	—	Total	+	—	Total
January ...	23	155	178	6	16	22	43	134	177	5	28	33	...	...	...	...	...	...
February ...	22	221	243	5	21	26	39	155	194	3	35	38	...	...	...	...	...	...
March ...	32	245	277	4	32	36	57	221	278	8	66	74	...	...	...	...	...	...
April ...	14	226	240	4	25	29	36	100	136	7	53	60	...	...	...	...	...	...
May ...	24	159	183	17	50	67	39	159	198	6	42	48	...	...	...	...	...	...
June ...	26	176	202	14	80	94	57	154	211	1	18	19	...	...	...	...	...	...
July ...	24	206	230	4	37	41	33	102	135	2	25	27	...	...	...	...	...	...
August ...	17	160	177	7	24	31	34	70	104	3	36	39	22	9	31	...	...	...
September ...	38	194	232	6	26	32	47	97	144	10	45	55	44	34	78	1	4	5
October ...	26	197	223	9	43	52	20	97	117	7	42	49	36	35	71	3	7	10
November ...	28	234	262	5	16	21	26	69	95	12	37	49	42	46	88	1	3	4
December ...	42	397	439	7	29	36	32	84	116	6	41	47	32	34	36	2	1	3
Total ...	316	2570	2886	88	399	487	463	1442	1905	70	468	538	176	158	334	7	15	22

Total specimens enumerated above—6,172. Other investigations 156, re cerebro spinal fluid. milk, shaving brushes, water, etc.

## MEASLES AND GERMAN MEASLES.

The actual numbers notified were in the respective quarters of 1917 :—

Diseases Notified	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
Measles . . . . .	5,364	3,599	860	790	10,613
German Measles . .	142	337	78	64	621

The deaths from Measles in successive years are shown in the following table :—

TABLE I.

### DEATHS FROM MEASLES IN THE CITY OF MANCHESTER.

Under One Year				Years of Age				Total 5 Years and upwards	Total deaths at all ages
Years	Under 3 Months	3-5 Months	6-11 Months	1-	2-	3-	4-		
1899- 1908 }	16	57	742	1470	599	338	168	168	3558
1909	2	6	78	164	58	37	16	35	396
1910	2	2	76	118	39	21	15	18	291
1911	1	7	73	152	47	30	16	11	337
1912	4	8	99	163	88	58	38	32	490
1913	5	3	62	98	37	20	19	15	259
1914	1	3	62	127	54	19	9	18	293
1915	1	5	98	215	64	29	20	15	447
1916	3	2	37	80	28	12	8	9	179
1917	0	5	62	98	55	24	17	16	277

It would be unwise to claim the great reduction in mortality which is manifest in the above figures in 1916 and 1917 as due entirely to better administration.

But I make no doubt that it was partly due to the work of the Health Visitors.

The deaths in quarters are given in Table 2.

TABLE 2—MEASLES, DEATHS.

YEAR	1st Quarter	2nd	3rd	4th	Whole Year
1902 .....	67	68	60	47	242
1903 .....	158	104	54	29	345
1904 .....	100	189	83	53	425
1905 .....	41	99	77	13	231
1906 .....	60	266	118	32	475
1907 .....	51	73	50	55	229
1908 .....	116	78	71	101	366
1909 .....	155	164	45	32	396
1910 .....	32	118	71	70	291
1911 .....	48	197	61	31	337
1912 .....	214	211	28	37	490
1913 .....	85	105	58	11	259
1914 .....	37	132	50	74	293
1915 .....	153	224	39	31	447
1916 .....	27	84	31	37	179
1917 .....	134	123	14	6	277

In Table 3 is given a comparison of Manchester mortality with that occurring in other districts.

TABLE 3.—1917.—MEASLES MORTALITY RATES.—RATE PER 1,000 LIVING, COMPARED WITH MEAN OF FIVE YEARS.

	Mean 1912-16	1917
England and Wales .....	0·29	0·30
96 Great Towns .....	0·37	0·41
London .....	0·35	0·48
<b>City of Manchester</b> .....	0·45	0·36
Manchester Township ....	0·77	0·88
North Manchester .....	0·36	0·29
South Manchester .....	0·41	0·27
148 Smaller Towns .....	0·30	0·30

The distribution of mortality in districts shows that the disease caused the highest death-rates in Ancoats, Hulme, and Clayton.

(Table omitted.)

## WHOOPIING COUGH.

The highest death-rates are in Clayton (0·25), Central (0·16), Bradford (0·15), and Moss Side (0·13). The death-rate for 1917 was below that of the country generally, of the great towns, and of London.

TABLE I.

1917.—WHOOPIING COUGH MORTALITY.—RATE PER 1,000 LIVING, COMPARED  
WITH MEAN OF FIVE YEARS.

	1912	1913	1914	1915	1916	Mean	1917
England and Wales .....	0·23	0·14	0·21	0·21	0·16	<b>0·19</b>	0·13
96 Great Towns.....	0·26	0·17	0·25	0·23	0·21	<b>0·22</b>	0·15
London .....	0·22	0·17	0·20	0·25	0·18	<b>0·20</b>	0·13
City of Manchester ...	0·41	0·19	0·38	0·09	0·40	<b>0·29</b>	0·06
Manchester Township ...	0·55	0·19	0·61	0·05	0·76	<b>0·43</b>	0·05
North Manchester.....	0·36	0·19	0·33	0·08	0·34	<b>0·26</b>	0·05
South Manchester .....	0·40	0·18	0·35	0·12	0·34	<b>0·27</b>	0·07
148 Smaller Towns .....	0·24	0·13	0·18	0·22	0·14	<b>0·18</b>	0·15

DIARRHŒA.

TABLE I.—1917.—DIARRHŒA AND SIMPLE CHOLERA MORTALITY.—

DEATHS UNDER TWO YEARS OF AGE PER 1,000 BIRTHS,  
COMPARED WITH MEAN OF FIVE YEARS.

This table of comparison shows that the Diarrhœa rate in 1917 was above that of the 96 great towns.

	1912	1913	1914	1915	1916	Mean	1917
England and Wales .....	8·53	23·41	20·41	18·18	12·47	16·60	12·18
96 Great Towns .....	10·91	29·33	26·09	24·48	16·24	21·41	16·14
London .....	12·42	27·50	27·64	25·01	15·80	21·67	18·70
City of Manchester.....	13·65	30·76	26·85	26·56	19·01	23·36	19·00
Manchester Township .....	25·89	55·43	52·84	46·13	42·58	44·57	39·60
North Manchester.....	10·97	27·22	18·81	20·74	13·81	18·31	13·69
South Manchester .....	10·70	24·08	21·77	23·00	14·04	18·71	15·12
148 Smaller Towns .....	8·01	24·73	19·84	17·15	10·79	16·10	10·08

The number of deaths in successive years, and their distribution in quarters of the year, are exhibited in the following figures :—

TABLE 2.—DIARRHŒA AND SIMPLE CHOLERA DEATHS IN QUARTERS, 1907-1917

	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	Mean	1917
First Quarter.....	14	29	19	30	44	49	60	67	49	55	42	48
Second Quarter...	18	29	35	29	50	40	46	53	57	48	41	30
Third Quarter.....	72	423	171	236	958	102	351	290	255	135	299	140
Fourth Quarter...	187	110	43	56	97	81	165	114	127	75	106	61
	291	591	268	351	1149	272	622	524	488	313	488	279

The meteorological data given in the following table show that the third quarter was warm and humid :—

TABLE 3.

Third Quarter of the years	Mean Temperature	Rainfall, Inches	Humidity, per cent.	Diarrhœa and Simple Cholera Mortality. Annual Rate (third quarter) per 1,000 living
1891	58°·2	12·8	79 %	1·57
1892	57°·0	12·5	78 %	2·07
1893	60°·4	10·7	74 %	4·95
1894	57°·8	9·0	78 %	1·55
1895	60°·4	11·2	77 %	4·17
1896	58°·5	9·7	76 %	2·93
1897	58°·9	9·7	73 %	6·01
1898	60°·1	6·1	74 %	6·00
1899	60°·8	7·7	75 %	6·96
1900	60°·3	9·6	78 %	4·14
1901	61°·9	6·5	74 %	6·33
1902	57°·6	5·9	78 %	0·88
1903	57°·8	12·3	77 %	2·19
1904	60°·2	6·9	73 %	4·48
1905	58°·9	9·4	76 %	3·89
1906	60°·8	6·2	75 %	4·91
1907	58°·5	7·8	77 %	0·45
1908	59°·2	10·7	78 %	2·61
1909	57°·8	10·4	79 %	1·04
1910	58°·1	9·1	79 %	1·32
1911	63°·0	6·7	69 %	5·48
1912	56°·9	12·3	79 %	0·56
1913	59°·4	4·9	80 %	1·89
1914	59°·8	9·2	77 %	1·57
1915	58°·6	9·5	77 %	1·37
1916	60°·2	5·7	79 %	0·71
Mean	55°·4	8·9	75 %	3·07
1917	60°·5	10·7	77	0·73

The data in the above table are such as would have led us to expect a high diarrhœal mortality. This, however, was again comparatively low. The table showing the distribution of diarrhœal mortality is not reproduced. It possesses the feature previously noted that the inequalities in fatality are well marked, as between district and district, and between one year and another.

## OPHTHALMIA NEONATORUM.

BY DR. M. A. C. DOUGLAS-DRUMMOND.

During the year 1917, 636 cases of Inflammation of the Eyes were notified from various sources, and visited by the Eye Nurses.

Of these, 97 were cases of disease in children and adults : 46 suffered from purulent Conjunctivitis (11 cases of which had had Measles), 13 from Blepharitis, 7 from Keratitis, 7 from Nebulae Corneae, 1 from Proptosis and Suppurating Lachrymal Gland, 1 from Iritis, 3 from Congenital Malformations, 5 from Trachoma (reported by the Military Authorities), and 14 from simple Conjunctivitis (reported by the Education Authorities).

539 were cases of Inflammation of the Eyes of newly-born children. Of these, 315 were notified by the medical attendants (either private or at the Royal Eye Hospital) as cases of Ophthalmia Neonatorum. The remaining 224 cases were notified by midwives, but the medical attendants considered them to be cases of Conjunctivitis only.

The following table shows the distribution of cases both as regards the districts in which they occurred and the month of the year. The cases in which the corneae were affected are shown on the first table also.

The largest number of cases of true Ophthalmia occurred in Hulme, St. George's, Ardwick, and Chorlton-upon-Medlock.

The monthly rate of notified cases varies considerably, and there seems no special reason for the rise and fall in numbers. May heads the list, followed by January, August, September, and October.

TABLE A, 1917.—SHOWING THE NUMBER OF CASES OF OPHTHALMIA NEONATORUM NOTIFIED MONTH BY MONTH IN DISTRICTS.

Month of the Year	January	February	March	April	May	June	July	August	September	October	November	December	Total	Cases not Notified	Cases with Corneal Com- plications
Ancoats ..	1	1	3	1	1	2	2	..	4	1	2	1	19	16	5
Central ..	1	2	..	..	..	2	1	1	1	..	1	..	9	2	1
St. George's ..	4	4	1	4	5	..	1	4	4	3	4	3	37	30	2
Cheetham ..	2	1	..	..	2	1	1	1	..	1	1	..	10	8	1
Crumpsall ..	1	1	..	2	3	2	..	1	2	3	1	1	17	..	1
Blackley ..	1	..	..	1	..	..	..	..	..	..	..	1	3	..	..
Harpurhey ..	1	..	..	..	..	..	1	2	1	..	..	..	5	10	1
Moston ..	1	..	1	..	2	1	..	..	..	..	..	..	5	3	..
Newton ..	..	..	..	..	1	..	..	..	2	1	..	1	5	5	1
Bradford..	3	1	..	3	4	3	..	..	..	1	..	1	16	17	1
Beswick ..	..	..	1	1	5	1	..	1	..	1	..	1	10	17	1
Clayton ..	..	..	2	..	..	2	..	1	..	..	..	..	5	..	..
Ardwick ..	3	3	..	1	5	3	3	7	2	3	4	2	36	21	3
Openshaw ..	4	1	..	3	3	..	3	1	1	..	2	..	18	23	3
West Gorton ..	2	1	..	2	..	1	2	..	1	1	..	1	11	9	2
Rusholme ..	..	..	1	..	..	..	1	..	..	1	1	..	4	8	1
Chorlton-upon-Medlock .	2	1	3	..	2	2	3	4	3	4	1	3	28	10	3
Hulme ..	1	3	6	1	5	4	3	3	3	2	5	3	39	22	7
Moss Side ..	2	..	1	1	..	2	1	..	..	1	..	..	8	2	1
Withington ..	2	1	..	..	..	2	..	1	1	..	..	1	6	1	1
Gorton ..	2	1	4	..	1	..	..	2	1	6	1	1	21	19	1
Levenshulme ..	..	1	..	..	..	..	..	..	1	1	..	..	3	1	1
CITY.. ..	33	22	23	20	39	28	22	29	27	29	23	20	315	224	37
Cases with Corneal Com- plications	5	1	3	4	3	1	3	4	5	3	3	2	37	..	37

The tables have been constructed as in last year's report, and explain themselves.

In 22 cases, other children had had Ophthalmia Neonatorum, and in four instances two previous children had been infected at birth, while in one instance the entire family of seven previous children had suffered from Ophthalmia.

In 15 cases where the infants were suffering from Conjunctivitis there was a history of eye trouble in other children at birth.

TABLE B—1917. OPTHALMIA NEONATORUM. HISTORY OF MOTHER.

	Age of Mother					Parity										Labour		Attendant not present at birth	No. of mothers having had previous cases of Ophth. Neon.	History of yellow discharge	Legitimacy		Definite history of delay in advising Medical assistance and Midwife attending case
	—20	—25	—30	35 and Over	Total	1	2	3	4	5	6	7	8	9+	Not Ascertained	Normal	Abnormal						
Notified ..	23	85	100	107	—	96	64	41	22	22	18	18	8	22	4	285	30	63	27	152	293	22	—
Not notified	9	58	63	94	—	47	47	24	30	21	9	9	22	15	—	115	9	41	15	76	218	6	—
Total cases notified .. ...																		315	539				
Total not notified .. ...																		224					

Table C shows the day of onset, the attendant at birth, and the place of treatment.

The greatest number of onsets was on the first day of life, and in over one-half of the cases the first signs of disease appeared during the first four days.

One-half of the cases were treated by private doctors, and the remaining half by the doctors of the Royal Eye Hospital.

In 37 instances there was involvement of the cornea, and 12 of these cases were admitted as in-patients to the Royal Eye Hospital and one into the Union Hospital, Crumpsall.

TABLE C—1917. OPTHALMIA NEONATORUM.

	Interval in days between birth and onset										Attended by				Where treated				Total	
	1	2	3	4	5	6	7	8	9	10+	Total	Midwife	Doctor	Midwife and Doctor	Total	Home	Out-Patients at Hospital	In-Patients at Hospital		No Doctor
Notified .....	44	40	44	40	24	28	29	25	13	28	315	222	58	35	315	155	125	35	—	315
Not notified .....	38	20	31	30	21	26	18	8	16	16	224	201	4	19	224	185	23	—	16	224
Total notified cases												...	...	...	315	= 539				
Total non-notified cases												...	...	...	224					

TABLE D.—CASES WITH INVOLVEMENT OF THE CORNEA.

Right Eye	..	..	..	..	..	..	..	..	10
Left Eye	..	..	..	..	..	..	..	..	13
Both Eyes	..	..	..	..	..	..	..	..	14
									—
									37
									—

Table E shows the results of the 315 cases of *true* Ophthalmia, and of the 224 Conjunctivitis in *newly-born infants* :—

	Complete Recovery	One Eye Lost, Other Normal	One Eye Lost, the other Damaged	Both Eyes Lost	Both Eyes Damaged	One Eye Damaged	Death before recovery	Removed before recovery	TOTAL
Notified .. ..	298	3	1	..	..	2	7	4	315
Not notified ..	219	..	..	..	..	..	3	2	224
	517	3	1	..	..	2	10	6	539

The number of cases with corneal involvement was not large—37 in all—and the results are very satisfactory, as 31 have completely recovered.

In the case in which one eye is recorded as lost, the other damaged, the child was attending the Out-patient Department of the Royal Eye Hospital for seven days prior to admission.

In the three cases where one eye was lost, all were in-patients in the Royal Eye Hospital, and also the two cases where one eye was damaged.

Of the seven notified cases in which death occurred before recovery, all were progressing satisfactorily.

The six cases removed before recovery were reported to the authorities into whose districts they removed.

The total numbers of cases of Ophthalmia and Conjunctivitis in newly-born infants were: in 1911, 525; in 1912, 667; in 1913, 573; in 1914, 681; in 1915, 642; and in 1916, 620. The percentage of cases with corneal complications in 1911 was 7.23, as compared with 11.39 in 1912, 12.04 in 1913, 9.25 in 1914, 7.79 in 1915, 6.13 in 1916, and 6.86 in 1917.

The two nurses appointed in 1911 have continued the work in 1917 in a most efficient manner. The routine followed has not been altered. It has been found that half the number of cases of true Ophthalmia Neonatorum were treated at home and the remainder in hospital.

The cases of simple Conjunctivitis were, with few exceptions, all treated at home.

Thanks are due to the Health Visitors and to the Education Officers for bringing cases other than Ophthalmia Neonatorum to the notice of the Department.

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### CEREBRO-SPINAL FEVER AND OTHER FORMS OF MENINGITIS.

There were 29 suspected cases of Cerebro-spinal Fever investigated bacteriologically. Of these, 7 have been accepted as Cerebro-spinal Fever and 1 had Tubercular Meningitis.

The ages of the 7 cases of Cerebro-spinal Fever were:—under 1 year, no cases; 1 to 5 years, 2; 5 to 10 years, 1; 10 to 25 years, 2; 25 and over, 2. They were distributed through the year as follows:—January, 2 cases; February, 1; March, 1; April, 2; September, 1. 5 cases ended fatally, giving a mortality rate of 71 per cent. 6 cases occurred in South Manchester, 3 of which were in Gorton, 2 in Ardwick, 1 was in North Manchester, and 1 was sent into Monsall from Sale as suffering from Scarlet Fever. No source of infection was traced in any of them. 15 Naso-pharyngeal swabs were taken from contacts with negative results. In no instance did the disease spread amongst immediate contacts.

In addition to the cases investigated, and apart from Tubercular Meningitis, from which there were 138 deaths, there were 76 deaths certified as due to Meningitis. As has been pointed out in previous reports, unless bacteriological examination is made, the causative organism in Meningitis, apart from certain definitely Tubercular cases, can only be guessed at.

The number of cases notified as suffering from Poliomyelitis was 14, of whom 1 died. These were distributed as follows:—7 in South Manchester, 4 in North Manchester, and 3 in the Manchester Township.

The number of cases under 5 years was 11, and from 5 to 10 years 3. All were well-marked cases, and 8 had continuing paralysis. Their distribution in months was:—1917, 1; January, 0; February, 1; March, 1; April, 0; May, 0; June, 1; July, 1; August, 2; September, 4; October, 3; November, 0; December, 0.

## THE VENEREAL DISEASES SCHEME.

For many years the losses in health, happiness, and efficiency caused by Venereal Disease have been a matter of grave concern, especially to the Medical Profession, who had the best opportunities of being acquainted with their extent. Various efforts, chiefly futile, were made to reduce them, more especially in connection with the Services. But a great impulse was given to further effort by important discoveries in connection with these diseases. In 1879 Neisser discovered the *Gonococcus*, and opened the way to a more accurate knowledge of the pathological changes occurring in Gonorrhœa, as well as to more accurate modes of treatment. In 1905 Schaudinn and Hoffmann announced the discovery of the *treponema pallidum* in Syphilis, a discovery which, besides assisting in the diagnosis of that disease, has cleared up obscure points in its pathology, and has shown that general paralysis of the insane and locomotor ataxy are not after-effects of Syphilis as had been supposed, but are due to the actual presence of the *Spirochaete* in the nervous substance. In 1909 Wassermann applied the Bordet-Gengou phenomenon to the diagnosis of Syphilis, an application of the utmost importance in determining how far a cure has extended, and in 1910 Ehrlich's discovery of Salvarsan put treatment on a new and more secure basis.

Accordingly, a Royal Commission was appointed in 1913 to review the whole subject, and issued an important and practical report in 1916. This contained the startling statement that, in the opinion of the Commission, some 10 per cent. of the population of large towns suffers from the results of Syphilis, while over 10 per cent. suffers from Gonorrhœa or its effects. This conclusion was founded on sample investigations, and the number of cases notified in cities like Manchester as suffering from Ophthalmia Neonatorum gives support to the estimate. The conclusions of the Commission foreshadow important legislation in various directions, but direct attention to two matters of especial and immediate urgency, viz. :—the provision of free treatment of the most scientific character to all persons suffering from Venereal Diseases, and the need for education of the public as to the extent of the evil and the remedies proposed.

Local Authorities are to draw up schemes of treatment to be readily available to the whole community. Institutional treatment is, as far as possible, to be in General Hospitals. The treatment at Institutions is to be free to all, from whatever area coming. Evening Clinics are to be established for the benefit of the working classes. Local Authorities are to supply Salvarsan or its substitutes gratuitously under proper safeguards. Medical men treating cases of Venereal Disease are to hand printed instructions to any person suffering from Venereal Disease applying for treatment. Medical students and practitioners are to have free access to Venereal Diseases Clinics for purposes of instruction. Extended facilities are to be given for the diagnosis of Venereal Diseases

at Public Laboratories. The freest use is to be made of University and Hospital Laboratories. Accurate statistics are to be kept of all work done. Provision for treatment is to be made in Prisons and in Poor Law Hospitals. A special practical course in Venereal Disease is to be given to Medical Students, and questions on the subject are to be set in examination papers. It is suggested that 75 per cent. of the expenditure be defrayed from Imperial funds.

Popular instruction, it was considered, could best be carried out by the National Council for Combating Venereal Diseases, and is to embrace instruction to senior pupils by headmasters of schools and lectures in factories, workshops, etc.

Of the other recommendations of the Commission, one requires specific mention, viz., that all advertisement of remedies for Venereal Diseases should be prohibited by law. This has been done by the Venereal Disease Act, 1917, which, amongst other localities, has been applied by order of the Local Government Board to Manchester, and prohibits also the treatment of Venereal Diseases by unqualified persons.

No time was lost by the Local Government Board in carrying the above recommendations into effect, and in the same year as the report of the Royal Commission appeared the Board issued the Public Health (Venereal Diseases) Regulations, 1916, bearing date July 12th, 1916.

This Order runs as follows :—

To the Council of every County and of every County Borough in England and Wales ;

To the Mayor, Aldermen, and Commons of the City of London, in Common Council assembled ;

And to all others whom it may concern.

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Whereas We, the Local Government Board, are empowered by the Public Health Act, 1875, as amended by the Public Health Act, 1896, from time to time to make, alter, and revoke such Regulations as to Us may seem fit, with a view to the treatment of persons affected with any epidemic, endemic, or infectious disease, and for preventing the spread of such diseases, and may declare by what authority or authorities such Regulations shall be enforced and executed ;

And whereas by the Public Health (Prevention and Treatment of Disease) Act, 1913, We are empowered to declare that the Council of a County shall be an Authority to execute and enforce such Regulations, but it is provided that, except in case of emergency, We shall not require the Council of a County to execute and enforce any such Regulations without the consent of such Council ;

And whereas Venereal Diseases are endemic and infectious diseases, and in view of the present War a case of emergency has arisen which requires the

immediate execution and enforcement of Regulations with a view to the treatment of persons affected with these diseases and for preventing the spread of these diseases ;

Now, therefore, We, the Local Government Board, do by this Our Order, and in the exercise of the powers conferred on Us by the Public Health Act, 1875, the Public Health (London) Act, 1891, the Public Health Act, 1896, and the Public Health (Prevention and Treatment of Disease) Act, 1913, and every other power enabling Us in that behalf, make the following Regulations, and also Declare and Direct as follows :—

ARTICLE I.—Every Council shall, subject to the approval of the Local Government Board, make arrangements for enabling any medical practitioner, practising in the area of the Council, to obtain, at the cost of the Council, a scientific report on any material which the medical practitioner may submit from a patient suspected to be suffering from venereal disease.

ARTICLE II.—(1) Every Council shall prepare and submit to the Local Government Board a scheme—(a) for the treatment at and in hospitals or other institutions of persons suffering from venereal disease ; and (b) for supplying medical practitioners with salvarsan or its substitutes for the treatment and prevention of venereal disease ; and when the Board have approved the scheme the Council shall make arrangements for carrying it into effect at the cost of the Council.

(2) All information obtained in regard to any person treated under a scheme approved in pursuance of this Article shall be regarded as confidential.

ARTICLE III.—(1) Any Council may, subject to the approval of the Local Government Board, make arrangements for any of the purposes of this Order with the managers of any hospital, institution, or society ; but until the Board have approved of those arrangements and of the hospital, institution, or society, no expenditure under the arrangements shall be incurred.

(2) Any approval given by the Local Government Board under this Article may be given for such term and subject to such conditions as the Board may think fit, and any such approval may be withdrawn by the Board.

ARTICLE IV.—Any Council may make such provision for the giving of instructional lectures and for the publication of information on questions relating to venereal disease as the Council may think necessary or desirable.

ARTICLE V.—For the purposes of this Order—

(1) The expression “ Council ” means County Council, County Borough Council, and the Common Council of the City of London.

(2) The expression “ area of the Council ” means the Administrative County, the County Borough, or the City of London, as the circumstances may require ; and in the case of the Administrative County of London it means the Administrative County exclusive of the City of London.

(3) "Venereal disease" means syphilis, gonorrhœa, and soft chancre.

ARTICLE VI.—The expenses incurred under these Regulations shall in the case of a County Council be defrayed as expenses for general county purposes, in the case of a County Borough Council as part of the expenses incurred by the Council in the execution of the Public Health Acts, and in the case of the Common Council of the City of London as part of the expenses incurred by the Council in the execution of the Public Health (London) Act, 1891.

ARTICLE VII.—These Regulations shall come into operation on the date of this Order, and shall then and thereafter apply and have effect throughout England and Wales, and shall be executed by every Council.

ARTICLE VIII.—These Regulations may be cited as "The Public Health (Venereal Diseases) Regulations, 1916."

Given under the Seal of Office of the Local Government Board this Twelfth day of July, in the year One thousand nine hundred and sixteen.

The Order was accompanied by a Circular to Councils of Counties and County Boroughs, a Circular to the Governing Bodies of Hospitals, and a Circular to Boards of Guardians; also by a Memorandum by the Medical Officer of the Local Government Board on the organisation of Medical Measures. These set forth in ample detail the part to be fulfilled by the Clinics, the arrangements to be followed in the daily routine, the provision to be made of Hospital beds and of beds elsewhere, the qualifications of the Medical Officer of the Clinic, the relation of the General Practitioner to the Scheme, the work of the Medical Officer of Health, the conditions applying to the gratuitous supply of salvarsan and its substitutes, and the arrangements for the examination of pathological material.

In pursuance of this Order, a Scheme was drawn up and submitted to the Council in April, 1917, which provided for the establishment of Venereal Disease Clinics at the Royal Infirmary, the Ancoats Hospital, the Hospital for Skin Diseases, and the Lock Hospital. Provision was made for the inclusion of the Northern Hospital and of St. Mary's Hospital.

The arrangements for pathological work were fully set forth by Professor Delépine in a statement which included an account by Professor Dean of his procedure in applying the Wassermann test.

This Scheme was adopted by the Council and accepted by the Local Government Board, and need not be reproduced here. But a number of points require to be reviewed.

It has been made an essential point that any scheme should provide for treatment being secret, and, if the fullest use is to be made of institutional treatment, the condition is an important one, though, it must be admitted, one extremely difficult to carry out. There are, however, a large number of persons who have not appeared to be very anxious on this subject, or at all events not sufficiently so to prevent them applying for treatment.

At the Lock Hospital, of course, this condition cannot be fulfilled. In effect, it is almost impossible to secure complete secrecy at any public institution. It might be supposed that by merging Syphilis in a Skin Clinic secrecy could be secured, and so it is up to a certain point. But the arrangements for injection of salvarsan substitutes are such that it cannot well be maintained. Gonorrhœa, again, might be merged in a genito-urinary clinic, but a genito-urinary clinic, at any rate so far as males are concerned, tends to become a Gonorrhœal clinic. It will be seen further on that, while a fair measure of success has been obtained in the treatment of Syphilis, the treatment of Gonorrhœa has so far been unsuccessful. Patients do not come, except to the Lock Hospital, and the total number treated does not correspond to the magnitude of this scourge. The cause usually assigned is that, as a rule, the immediate inconvenience sustained, especially by women, is not sufficient to urge them to have recourse to a public institution.

However, there appears to be an increasing tendency for Gonorrhœal cases to apply, and it is only a question of time and energy. No doubt the barrier, whatever its real nature be, will disappear, at least in part.

In my view, all women suffering from an abnormal vaginal discharge should obtain medical treatment, and medical men should press this fundamental need on their patients.

One institution, the Lock Hospital, does not fulfil the condition laid down in the Circular of the Local Government Board dated July 13th, 1916, that it is important to arrange that the Clinics are not specially designated as for Venereal Diseases, and that nothing is done to distinguish the patients who attend for treatment of these diseases. It was, however, of importance that all the agencies for dealing with Venereal Disease should adopt a like procedure, and that the methods of treatment should, as far as practicable, be uniform. The Lock Hospital was an old-established institution, having Medical Officers of special experience, and could not well be passed over. It has, moreover, maintained its place. Further, unlike other hospitals, it was in possession of a number of beds, and nothing could be clearer than the need for a certain number of beds for continuous treatment. The feeling existed that the general hospitals were best fitted to carry on this work. Little

reflection is needed to show that this is not the case so far as Manchester is concerned. The Manchester and Salford Hospital for Skin Diseases, in especial, had a fairly large clientele of Syphilitic patients, while Venereal Disease in women may be regarded as particularly appertaining to the St. Mary's and Northern Hospitals.

At the Royal Infirmary and Ancoats Hospital it is apparently impossible to say how many of these cases have presented themselves for treatment in former years.

The institutions engaged in the Scheme so far are the Royal Infirmary, Ancoats Hospital, the Lock Hospital, and the Hospital for Skin Diseases. The Northern Hospital declined to come in, preferring to carry on the same work on a voluntary basis. Great difficulty was experienced, especially in the case of the Royal Infirmary, in arriving at a satisfactory agreement, and ultimately a model form drawn up by the Local Government Board was accepted, with the necessary modifications in individual cases. The Royal Infirmary did not commence work till December, 1917. The other three commenced in the end of July.

#### *Publicity.*

The arrangements concluded for institutional treatment, pathological examinations, and the supply of salvarsan to practitioners, were communicated to practitioners in two circular letters, with which also were sent Professor Delépine's directions for taking specimens and a substitute for Form V<sup>1</sup> of the Local Government Board, also Forms V<sup>1</sup> to V<sup>4</sup> and V<sup>6</sup> to V<sup>8</sup>.

Much pains were expended by Professor Delépine in devising and providing outfits and in drawing up forms and instructions. These details are not reproduced here. Comparatively little advantage has hitherto been taken of the Laboratory facilities by practitioners. Moreover, the opportunities for instruction in examination and treatment have hitherto been little used. No doubt all this will change. The present shortage of medical men has, doubtless, much to do with it, practitioners finding it difficult to get time to attend clinics. In consequence, very few men not previously fulfilling the conditions laid down by the Local Government Board have qualified for the receipt of free salvarsan or its substitutes (as prescribed in the Local Government Board's Circular of August 29th, 1916). Classes have been held, however, at Ancoats Hospital.

The Scheme has also been advertised twice in the local newspapers by the Corporations of Manchester and Salford.

A local branch of the National Council was formed on July 30th, 1917, under the presidency of the Lord Mayor.

Generally speaking, it is a condition necessary to the inclusion of any institution that it shall be approved by the Local Government Board, and it is necessary, also, before the Local Government Board will sanction the 75 per cent. of the expenses coming from Government funds, that all the arrangements are satisfactory to the Board. They must also be satisfactory to the Corporation, which pays 25 per cent. of the cost.

In particular the hospitals are required to provide suitable premises for the reception of out-patients. Such premises are to include a waiting room, examination rooms, and operating rooms. Where Gonorrhœal patients are under treatment the consulting and examining rooms must be provided with suitable means of examination and with appliances for douching. How far a douche room for patients is necessary is a matter of opinion. A douche room has been provided at the Lock Hospital, but not at other institutions. At the Ancoats Hospital such a room is not considered advisable. When it is considered advisable to wash out the bladder, this is done by the Medical Officer by means of the douches available in the examination room. When the patient is required to wash out the anterior urethra, he obtains a syringe from the dispensary of the hospital for the purpose.

Whether the hospital is or is not provided with a laboratory, a good microscope, provided with a 1-12 oil immersion and dark ground illumination, is a necessity, so that scrapings and urethral discharges may be immediately examined. But, as a matter of fact, of the four institutions already approved, three possess a laboratory.

A room for giving inoculations is necessary, though the record syringe has now supplanted the gravity equipment, and the requirements in this respect are much simplified.

Suitable arrangements must exist for registering those applying for treatment and furnishing them with a numbered card. The Medical Officer must keep a private register showing the names and addresses of patients, but this is to be kept under lock and key, and used only for purposes of correspondence with patients. The Medical Officer must also keep a record of each case showing the treatment pursued, the doses of salvarsan substitute administered, and so

forth. It is suggested also that an attendance register and a case register shall be kept, and model forms are given for all these purposes in a memorandum of the Local Government Board issued in December, 1916. Papers of advice are to be handed to each patient attending the clinic relating to Syphilis and Gonorrhœa, according to the nature of the case. All the approved institutions use the forms suggested, but the manner in which the information obtained is tabulated and filed varies at different institutions. The records at the Skin Hospital are very complete.

As regards the Medical Officers of the different approved institutions, it was intended that each institution should provide a Venereal Disease Officer, who would be responsible for the entire working of the clinic, and be paid a salary commensurate with the work. It was found, however, that, owing to the demands of the Army, the necessary men are not forthcoming, and, in consequence, the institutions decided that the work must be distributed amongst their Consulting Officers. In some respects this arrangement is advantageous, as it has at once secured the services of a body of experienced men, and should command the confidence of Medical Practitioners. But the arrangement is an expensive one, and should not continue indefinitely. One of the needs of the Scheme is that, when necessary, the Venereal Disease Officer shall visit the home of patients and consult with the Medical Attendant. This cannot well be arranged with a Consulting Staff, though the services of the Assistant Medical Officer should be available for this purpose. In the memorandum by the Medical Officer to the Local Government Board of July, 1916, he lays it down that the clinic should be held daily in large centres of population, separately for each sex. A daily clinic has not been found practicable in the cases of the Royal Infirmary and of the Ancoats Hospital, institutions at which the Venereal Disease clinic is new and takes time to expand. In other respects his requirements have been complied with.

The full arrangements so far made are as shown in the table given below :—

MANCHESTER AND SALFORD APPROVED CENTRES FOR THE TREATMENT OF VENEREAL DISEASES.

Institution .....	Royal Infirmary, Oxford Road, Manchester	Salford Royal Hospital, Chapel Street, Salford	Ancoats Hospital, Mill Street, Ancoats, Manchester
Day and Hour of Attendance	<p>Skin Clinic— Thursday ... 11-0 a.m. to 1-0 p.m. Wednesday... 6-0 to 8-0 p.m.</p> <p>Genito-Urinary Clinic— Wednesday... 11-0 a.m. to 1-0 p.m. Thursday ... 6-0 to 8-0 p.m.</p>	<p>Skin Department— Monday ..... 12-0 noon Thursday ... 7-0 p.m.</p> <p>Special Genito-Urinary Clinic— Tuesday ..... 12-0 noon Friday..... 7-0 p.m.</p>	<p>Genito-Urinary Diseases— Wednesday... 11-30 a.m. to 1-0 p.m. for females.</p> <p>Wednesday... 5-30 to 7-0 p.m. for males.</p> <p>Skin Diseases— Wednesday 11-30 a.m. to 1-0 p.m. for females.</p> <p>Wednesday... 5-30 to 7-0 p.m. for males.</p>
Institution .....	Hospital for Skin Diseases, Quay Street, Manchester	Lock Hospital, Duke Street, Liver- pool Road, Manchester	
Day and Hour of Attendance	<p>Daily except Sunday— For men ..... 9-0 to 10-0 a.m. For women and children 9-0 to 11-0 a.m.</p>	<p>Monday .. ... Tuesday ..... Wednesday ... } 5 to 7 each evening. Thursday ..... Friday .. .....</p>	

There can be no question that these clinics are started under good conditions so far as Medical Staff are concerned, and it is hoped that Medical Practitioners will more and more send their patients to them. Much will depend, of course, on the consideration given to persons attending.

*Arrangements for Pathological Examinations.*

The fullest consideration was given by Professor Delépine and Professor Dean to the provision of facilities for the taking of pathological specimens, and these arrangements were notified to Practitioners. It must be admitted that the response has been disappointing, probably in large measure owing to the pressure of other work. These facilities will be again brought before Medical Practitioners. It is, perhaps, desirable that an authoritative statement should be issued to practitioners indicating more fully than has hitherto been done the manner in which they can assist in carrying forward this movement.

As regards approved institutions, only one, viz., the Lock Hospital, elected to send their specimens to the Public Health Laboratory; the others desired to have their own Pathologist, viz., the Royal Infirmary, Professor Dean; the Skin Hospital, Dr. Dick; and the Ancoats Hospital, Dr. Renshaw. The Local Government Board accepted these appointments on condition that the Wassermann test was carried out on the Scheme provided by Professor Dean. By arrangement with Professor Delépine, the Public Health Wassermann tests were carried out by Professor Dean.

In accordance with the circular letter and memorandum of the Local Government Board dated December 22nd, 1916, annual returns on the prescribed forms have been sent to the Medical Officer of Health by three approved institutions and by Professor Delépine from the Public Health Laboratory. These returns have not been always so complete as is required under this memorandum or as is necessary to distinguish fully the work carried out for different areas. The same observation applies to the quarterly returns. However, this defect will be amended as far as practicable, and precautions will be taken to have a fuller return in future.

The information so far obtained is tabulated in the following tables, which show the progress of the work at each institution. Some observations may be made on these returns:—

TABLE I.—NEW CASES.  
PARTICULARS FURNISHED BY THE CENTRES FOR THE TREATMENT OF VENEREAL DISEASE, SHOWING THEIR OPERATIONS.  
UP TO DATE.

Period	Manchester and Salford Lock Hospital				Manchester and Salford Hospital for Skin Diseases				Ancoats Hospital				Manchester Royal Infirmary			
	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	G.	Not V.D.
* Two months ending Sept. 30th, 1917—																
All Cases .....	133	9	50	11	316	0	0	6	69	0	8	21	0	0	0	0
Manchester Cases .....	71	3	29	6	165	0	0	4	66	0	8	20	0	0	0	0
* Three months ending Dec. 31st, 1917—																
All Cases .....	107	9	82	19	120	0	0	15	69	1	15	10	0	0	0	0
Manchester Cases .....	99	5	31	9	61	0	0	9	61	1	13	10	0	0	0	0
* Three months ending March 31st, 1918—																
All Cases .....	136	11	135	13	148	0	0	22	97	0	21	48	153	5	58	77
Manchester Cases .....	98	7	87	9	30	0	0	11	78	0	15	46	85	5	46	59
* Three months ending June 30th, 1918—																
All Cases .....	158	10	175	18	158	0	0	14	100	0	27	28	109	7	35	45
Manchester Cases .....	129	8	151	13	75	0	0	6	79	0	26	25	66	5	25	32

\* Sy. = Syphilis.

S.C. = Soft Chancres.

G. = Gonorrhœa.

Not V.D. = Not Venereal Disease.

It will be observed that after the first two months ending September 30th, 1917, there is a set back in the next quarter ending December 31st, 1917, not only at the Lock and Skin Hospitals, but also at Ancoats Hospital. The reasons for this are not easy to give. It appears to indicate, however, that repeated advertisement is, and for some time will be, necessary. But it may be that, as the districts outside Manchester established treatment centres of their own, a certain number of cases were taken away. Notably this would be the case with Salford.

Moreover, the facilities for treatment would only gradually become known in outside areas. What is certain is that the success of the centres will depend to a great extent on the kind and quality of the work. The Secretary to the Skin Disease Hospital writes that the new cases for the two months ending September 30th include cases already under treatment. This might, also, be the case with the Lock Hospital.

In the three months ending March 31st, 1918, an increase is to be noted all round, and in the case of the Skin Hospital and Ancoats Hospital this increase is maintained in the quarter ending June 30th, 1918. This is the more noteworthy as it might be expected that the Royal Infirmary Clinic would seriously affect the Ancoats Clinic. So far this has not proved to be the case except, perhaps, by retarding its growth.

What is especially noteworthy in these returns is the comparatively small number of cases of Gonorrhœa seeking treatment at the Venereal Disease centres. If we have regard to the frequency of this disease and to its disastrous results, especially to women, this cannot be too much deplored. No distinction of sex has been made in this table, as this would have complicated it too much. The relative proportions of men and women obtaining treatment are, however, as far as practicable, shown in Table III. below.

The total number of "New" cases seeking treatment at the approved centres returned so far has been :—

*New Cases.*

Two months ending September 30th, 1917 (3 Centres)				Three months ending December 31st, 1917 (3 Centres)				Three months ending March 31st, 1918 (4 Centres)			
Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	G.	Not V.D.
518	9	58	38	296	10	97	44	534	16	214	160
623				447				924			

*Attendances.*

Two months ending September 30th, 1917 (3 Centres)				Three months ending December 31st, 1917 (3 Centres)				Three months ending March 31st, 1918 (4 Centres)			
Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	G.	Not V.D.
2,595	46	344	89	3,986	47	566	104	6,552	74	1,604	352
Doses of Salvarsan Substitutes given, 772				Doses of Salvarsan Substitutes given, 1,343				Doses of Salvarsan Substitutes given, 2,322			
Total Attendances, 3,074				Total Attendances, 4,703				Total Attendances, 8,582			

TABLE II.—ATTENDANCES.

SHOWING THE TOTAL NUMBER OF ATTENDANCES AT THE VENEREAL DISEASES CENTRES IN PERIODS SINCE THE INCEPTION OF THE SCHEME, AND THE PROPORTION OF THE NUMBER OF DOSES OF SALVARSAN SUBSTITUTES ADMINISTERED TO THE NUMBER OF CASES OF SYPHILIS TREATED.

Period	Manchester and Salford Lock Hospital				Hospital for Skin Diseases				Ancoats Hospital				Royal Infirmary			
	Sy.	S.C.	G.	Not V. D.	Sy.	S.C.	G.	Not V. D.	Sy.	S.C.	G.	Not V. D.	Sy.	S.C.	G.	Not V. D.
Two months ending Sept. 30th, 1917— All Cases .....	869	46	323	27	1447	0	0	10	279	0	21	52	0	0	0	0
† Salv. 371					Salv. 126											
Manchester Cases	571	28	307	14	753	0	0	8	275	0	21	52	0	0	0	0
					Salv. 64				Salv. 62							
Three months ending Dec. 31st, 1917— All Cases .....	No return—calculated from other returns															
	915	46	516	40	2494	0	0	26	577	1	50	38	0	0	0	0
	Salv. 1146				Salv. 436				Salv. 350							
(five months)																
Manchester Cases	960	48	411	24	1240	0	0	16	557	1	41	38	0	0	0	0
					Salv. 226				Salv. 342							
Three months ending March 31st, 1918— All Cases .....	1623	74	1369	24	3219	0	0	41	720	0	95	97	990	*	140	190
	Salv. 657				Salv. 623				Salv. 521				Salv. 521			
Manchester Cases	1420	51	1194	16	1690	0	0	20	625	0	68	95	534	*	109	155
					Salv. 320				Salv. 446							
Three months ending June 30th, 1918— All Cases .....	1608	60	1428	57	4031	0	0	32	878	0	151	76	1392		38	315
	Salv. 625				Salv. 689				Salv. 540							76
Manchester Cases	1489	47	1209	41	2034	0	0	9	724	0	129	72	744		21	218
					Salv. 340				Salv. 435							46

\* Included in Sy. cases.

† Salv. = Number of Doses of Salvarsan Substitutes given corresponding to the number of Attendances above.

Table II., showing the attendances and the number of doses of salvarsan substitutes given, presents the following salient features :—

- (1) The steady increase in the quantity of salvarsan substitutes administered.
- (2) The relatively low proportion of doses of salvarsan administered to the total number of cases of Syphilis at the Hospital for Skin Diseases, and the relatively high number of attendances at the same institution.

TABLE III.  
CLASSIFICATION ACCORDING TO SEX.—NEW CASES, YEAR 1917.

	Lock Hospital		Hospital for Skin Diseases		Ancoats Hospital	
	Male	Female	Male	Female	Male	Female
Manchester and Salford .....	160	93	96	208	114	76
					No copy of Annual Statement	
Other Districts.....	109	47	46	86	7	6

Do men or women most readily have recourse to these Centres, and are the relative proportions affected by the distance of the Centres from the Areas to which patients belong ?

The returns are incomplete, and the numbers are insufficient quite to clear up this point, but it is evident from the above that women do not so readily come from a distance as men.

The above figures are given directly by the Secretaries to the Institutions. In the case of the Lock Hospital, it will be seen that the total differs from that given in Table I.

Table IV. shows the number of pathological examinations made at the clinical centres placed in juxtaposition with the numbers of attendances. It is to be observed that no return has been made from the Lock Hospital of the number of examinations for Spirochætes and Gonococci. This does not mean that they were not made, but that they were not charged for. Here, again, the number of pathological examinations made at the Skin Hospital is small when compared with the number of attendances by reference to the Royal Infirmary and the Ancoats Hospital, but does not differ so much from the figures for the Lock Hospital. At all, the number of examinations for the Spirochæte of Syphilis is small, probably owing to the late stage at which the cases present themselves. The number of examinations at the Royal Infirmary is relatively high. Examinations for the Gonococcus show better figures for the Royal Infirmary and Ancoats Hospital in the quarter ending March 31st, 1918, but altogether the figures are low.

(Table IV. on next page.)

TABLE IV.

NUMBER OF PATHOLOGICAL EXAMINATIONS MADE FOR EACH CLINICAL CENTRE IN THE PERIODS NAMED.

Period	Manchester and Salford Lock Hospital				Hospital for Skin Diseases				Ancoats Hospital				Infirmary			
	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	G.	Not V.D.
Ending September 30th, 1917— Manchester Cases—																
Attendances ... ..*	869 W.	46 Sp.	323 G.	27	753 W.	0 Sp.	0 G.	8	279 W.	0 Sp.	21 G.	52	0	0	0	0
Pathological Specimens .....	70	0	0	0	39	2	0	0	80	4	13	0	0	0	0	0
Three months ending Dec. 31st, 1917— Manchester Cases—																
Attendances .....	915 W.	46 Sp.	516 G.	40	1240 W.	0 Sp.	0 G.	16	577 W.	1 Sp.	50 G.	38	0	0	0	0
Pathological Specimens .....	111	0	0	0	82	6	0	0	120	0	13	0	0	0	0	0
Three months ending March 31st, 1918— Manchester Cases—																
Attendances .....	1623 W.	74 Sp.	1369 G.	24	1690 W.	0 Sp.	0 G.	20	720 W.	0 Sp.	95 G.	97	534 W.	0 Sp.	109 G.	155
Pathological Specimens .....	175	0	0	0	123	11	0	0	222	6	39	0	145	20	34	0
Three months ending June 30th, 1918— Manchester Cases—																
Attendances .....	1608 W.	60 Sp.	1428 G.	57	2034 W.	0 Sp.	0 G.	9	878 W.	0 Sp.	151 G.	76	744 W.	21 Sp.	218 G.	46
Pathological Specimens .....	155	29	71	0	275	8	0	0	240	42	9	0	162	13	40	0

\* W = Waccamum T.

	LOCK HOSPITAL (All Cases attending)				SKIN DISEASES HOSPITAL				ANCOATS HOSPITAL			
	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	G.	Not V.D.
New Cases—												
All Cases .....	240	18	132	30	436	0	0	0	138	1	23	41
Manchester Cases .....	170	8	60	15	226	0	0	13	127	1	21	41
Cases discharged after completion of treatment—												
All Cases .....	80	11	50	0	0	0	0	0	17	0	0	0
Manchester Cases .....	28	7	22	0	1	0	0	0	17	0	0	0
Cases ceasing attendance without completing treatment—												
All Cases .....	23	5	31	0	55	0	0	0	57	1	14	0
Manchester Cases .....	17	0	15	0	37	0	0	0	54	1	14	0
Attendances at the Out-patient Clinic—												
All Cases .....	1784	92	839	67	3941	0	0	36	856	1	71	90
Manchester Cases .....	1270	45	427	41	1993	0	0	24	832	1	62	90
In-patient Days—												
All Cases .....	3023	Included	1482	Included	73	0	0	0	40	0	0	0
Manchester Cases .....	2257	in Syphilis	991	in Syphilis	57	0	0	0	32	0	0	0
Doses of Salvarsan Substitutes given—												
All Cases .....	1146	0	0	0	562	0	0	0	412	0	0	0
Manchester Cases .....	726	0	0	0	290	0	0	0	404	0	0	0
Pathological Examinations made—												
All Cases .....	Wass.	Spir.	Gon.		Wass.	Spir.			Wass.	Spir.	Gon.	Other
Manchester Cases .....	142	0	0	0	225	8	0	0	200	4	26	1
	117*	0	0	0	121	8	0	0	190	0	25	1

\* These relate only to Specimens sent to the Public Health Laboratory.

Table V.—The above table summarises the work done during the year 1917, but presents no additional features. The same disproportions are noted as in the previous tables. The number of cases ceasing treatment before completion appears high at the Skin Diseases Hospital and at Ancoats Hospital as compared with the Lock Hospital. I cannot explain this difference.

Table VI. was to have given such information as I could obtain by direct application to the institutions regarding the total number of cases under treatment in periods, but the figures supplied were evidently not correct, and there must have been some misunderstanding. It is, therefore, not reproduced.

#### *Finance.*

When the Scheme was presented to the City Council there were no reliable data to go upon, and the estimate was founded on the supposed numbers of cases which were being treated at four institutions. The Royal Infirmary and Ancoats assuredly could give no figures, and the guesses made evidently exceeded the reality. As regards the Lock Hospital, the figures were taken from the annual report, and were far in excess of what subsequent numbers show. It is manifest that the number of cases really meant the number of attendances, not new cases. The result is that the estimate was considerably in excess of the requirements. At the same time, the fresh estimate was not reduced, as no expenditure had yet been shown from the Royal Infirmary, and St. Mary's Hospital was expected to come in. Possibly, also, it may be necessary to provide a hostel for various classes of women, and it may be anticipated that publicity expenses will increase. One may also anticipate that the number of patients and other activities on the part of the centres will increase. Absolute secrecy cannot be secured unless cases are treated by consultants and practitioners at their consulting rooms, and it may prove possible for the Local Government Board to offer inducements to recognised practitioners to treat cases on condition that the same records are kept as are kept by public institutions. In this way a stimulus would be given to the general treatment of the disease, education would be made general, and larger numbers would receive complete courses of treatment. But I cannot say that I am confident of the records being fully kept. Although I still believe that the method of forming an estimate was a sound one, and would have given a fairly reliable estimate had the number of patients actually treated been ascertained, this was not the manner in which a final estimate was obtained.

This was arrived at by an estimate framed by the institutions themselves setting forth their proposed expenditure under a number of heads, such as :—

Medical Salaries,	Establishment Expenses,
Clerical Assistance,	Salvarsan Substitutes,
Orderlies,	Other Drugs,
Nurses,	Pathological Examinations,
Equipment, including Instruments,	Charge per bed used.
Microscope, etc.	

For reasons already given, the payment of Medical Officers is for the most part by fee.

The number of beds is generally limited to two or three, as it was intended that they should be used only for the observation of some of the cases treated with salvarsan substitutes. Experience, however, would appear to indicate that this is a subordinate need, and that the real need is for beds in which patients can receive continuous treatment. The Local Government Board require a full statement of qualifications for the position of Medical Officer, and their sanction must be obtained for all expenditure. In the above manner the following estimates were arrived at as the assistance required for the first year's working :—

Royal Infirmary .. .. .	£ 4,852
Lock Hospital .. .. .	2,078
Manchester and Salford Hospital for Skin Diseases ..	1,563
Ancoats Hospital .. .. .	1,990
Publicity .. .. .	100
Contribution to the Local Branch of the National Society for Combating Venereal Diseases .. ..	500
	<hr/>
	£11,083
	<hr/>

It is, however, manifest that the actual expenditure will considerably exceed this sum, even without the addition of St. Mary's Hospital, since, until Medical Practitioners have time and are prepared and equipped to undertake treatment on the principles with which they have been made acquainted in a general manner, and which they can learn more fully in the books by Colonel Harrison and Mr. Percy Kidd, the clientele of all the centres is bound to increase. Moreover, there are important lines of enquiry on which we are not at present able to engage, but which will receive attention as soon as the main lines of the Scheme are fully secured.

The actual expenditure during the first year—that is to say, the expenditure borne by the Imperial Exchequer and the Corporation—and the methods proposed to be pursued in allocating expenditure as between different areas are set forth in a very clear manner by the City Treasurer. This statement is too long to be reproduced here. But the chief point is that experience has shown it to be necessary that the City Treasurer should have access to the hospital records and accounts, and should himself send out the apportioned accounts and collect the money. A reasonable approximation to accuracy and despatch can in this way be secured.

This statement shows that the total net expenditure presented for payment during the five months from the inception of the Scheme (three centres only) till December 31st, 1917, and not falling exclusively on Manchester, was as follows :—

	£
Manchester and Salford Lock Hospital . . . . .	1,232
(This sum includes £721 for hospital treatment)	
Manchester and Salford Hospital for Skin Diseases . .	812
Ancoats Hospital . . . . .	732
Public Health Laboratory—Expenditure on work for Practitioners only . . . . .	68
Salvarsan Substitutes supplied by the Medical Officer of Health to Practitioners . . . . .	177
	<hr/>
	£3,021

An additional sum of £600 was voted for publicity purposes, but is as yet only partly expended. This falls exclusively on Manchester.

Of the £3,021, £2,184 on apportionment falls on Manchester, and the remainder—or, more accurately, £833—on a number of external areas.

*Work of the Local Branch of the National Council for Combating Venereal Diseases.*

A Conference was convened by the Lord Mayor, over which he presided, in the Council Chamber on July 30th, 1917. Speeches were made by Sir Malcolm Morris, Mrs. Gotto, Sir William Milligan, Councillor Miss Ashton, and the Lord Bishop of Manchester. It was there resolved to form a Local Committee for the purpose of disseminating information as to the Government Scheme for the treatment of Venereal Diseases and for educating the public in sexual hygiene generally, such Committee to form a branch of the above Council.

The Local Committee held its first meeting on July 31st, 1917, the Lord Mayor presiding. It was resolved to appoint an Executive Committee to consist of 30 members, and that the following 22 persons be appointed to serve thereon, with power to complete the Committee :—

Mrs. Anson,	Professor Hickson,
Councillor Miss Ashton,	Mr. Alfred Haworth,
Dr. Brockbank,	Mrs. Knox,
Dr. A. Brown Ritchie,	Councillor Mellor,
Dr. C. Chisholm,	Sir William Milligan,
Sir William Cobbett,	Mr. Purcell,
Professor Dean,	Mr. Charles Renold,
Captain Douglas,	Mr. Spurley Hey,
Mr. Godlee,	Mr. James Watts, junr.
Councillor Miss Herford,	Dean Welldon,
Alderman Goldschmidt,	Major Wilson.

The Executive Committee was empowered to form the following provisional Sub-Committees :—Schools, Works, Education, Finance, and Social Organisations. Subsequently, the Education and Schools Sub-Committees were amalgamated, as also were the Works and Social Organisations Sub-Committees.

In regard to publicity work, a Public Meeting was held in the Free Trade Hall on January 29th, 1918, when Mr. Hayes Fisher, M.P., President of the Local Government Board, Sir Thomas Barlow, and Dr. Mary Seharlieb delivered important and educative addresses. Miss Ashton and Professor Dean also spoke.

Lectures have been given at the following Works, etc. :—

Works, etc.	No. of Lectures	No. Present
Mather and Platt .. .. .	2	850
Collyhurst Mother Welcome .. ..	2	180
S. and J. Watts .. .. .	2 (to men)	45
	2 (to women)	40
Walton House .. .. .	1 (to men)	55
Ashton House .. .. .	1 (to women)	60
West's Albion Iron Works .. .. .	1 (to women)	60
Levinstein's .. .. .	2 (to women)	100
	2 (to men)	52
Abel Heywood's .. .. .	2 (to women)	85
	2 (to men)	50
National Association of Trade Union of Approved Societies .. .. .	1 (mixed)	34
Armstrong Whitworth's.. .. .	2 (to men)	560
	2 (to women)	525
William C. Jones Limited .. .. .	1 (to men)	55
	1 (to women)	155
Adams and Company .. .. .	1 (to women)	95
Arthur Smart and Sons .. .. .	1 (to men)	35

### LIMITED OUTBREAK OF SCURVY.

On June 6th, 1917, an intimation was received from Dr. R. W. Marsden that a number of patients in the Crumpsall Infirmary were suffering from well-marked Scurvy, and a list of 17 cases was furnished, with the addresses from which they had been admitted. The cases he stated to be mostly well pronounced, though some of them might be regarded as doubtful.

A history of the more prominent symptoms and of the diet which the patients had been taking was obtained by Inspector Higginbotham. Some of the facts

he could not personally witness, such as hæmorrhages, swelled joints, fœtor of the breath. But the cases were visited by the Medical Officer of Health and Dr. Sutherland.

All were males, of ages 34 and upwards, mostly considerably over this age.

The prominent features of the diet in those cases in which the symptoms were well pronounced were a lack of fresh proteid and vegetables in the diet. In addition to a lack of green vegetables, there was at that time a shortage in potatoes.

The symptoms included hæmorrhage, ecchymoses, swollen and painful joints, swellings in the legs, spongy gums and loose teeth, marked fœtor of the breath. Early prostration was not a prominent feature.

The outbreak was of short duration. By instruction of the Sanitary Committee, the following intimation was made to the public through the Press:—

The Medical Officer of the Crumpsall Workhouse reports the occurrence of Scurvy in a number of patients recently admitted into the Hospital.

It is found on enquiry that there has been no marked lack of fat in their diet, but that there has been a deficiency of fresh meat and a marked deficiency of fresh vegetables.

It is evident that the present situation involves dangers which require to be guarded against, and the public are advised that they should pay special attention to the following points:—

It is necessary to vary the diet as much as possible consistently with obtaining the different kinds of food necessary for physical efficiency, and also to get the utmost value out of food.

Hence all solid food should be thoroughly chewed before being swallowed.

That part of the food which is needed for building up and repairing the system is found in greatest abundance in these foods:

Meat, poultry, fish, milk, cheese, nuts, peas, beans, lentils, and oatmeal.

The cheapest sources of this part of food at present are peanuts, peas, beans and lentils, oatmeal, milk, herrings.

Milk may be used raw by adults, but should be scalded for young children. Peanuts should be partially cooked in the oven to render them palatable.

*Fresh meat and fresh milk have a special value in relation to scurvy.*

Eggs are a valuable food for children, but are dear.

Fat is needed in sufficient amount, and may be obtained as fat meat, pork, bacon, margarine, lard, dripping, cod liver oil, cod liver oil and malt, Marylebone cream, peanuts and other nuts, some fish.

Cheap sources of fat, having regard to their entire value, are herring, margarine, cod liver oil and malt, and peanuts.

Carbohydrates include the sugars and starches.

These must enter considerably into the diet of manual workers. They are used chiefly as bread, cakes, pastry, porridge, and oatcakes.

This class of food has risen greatly in price.

Having regard to their entire value, the cheapest sources of carbohydrates are probably flour, oatmeal, barley, rice, and milk.

But to secure a healthy condition of the blood, it is also needful to use fresh vegetables. Scurvy can be averted if the diet contains any of the following in sufficient amount:—Cabbage, turnips, carrots, radishes, lettuce, potatoes, and almost any fruit. Oranges and lemons are specially valuable, as also limejuice.

Raw vegetables, like radishes and lettuce, are more valuable than cooked vegetables as a preventative of scurvy.

The cheapest antiscorbutics at present are probably radishes and spring cabbage. For those who can get them, old potatoes boiled in their jackets are still a cheap means of warding off scurvy.

It is satisfactory to learn that the temporary little outbreak of scurvy is on the wane.

The deficiency of antiscorbutics and proteids is not likely to recur, since proteids may be obtained in the form of oatmeal, flour, herring, and milk.

There is, however, some risk of a shortage in fatty foods, though that should not be serious if abundance of milk and oatmeal can be secured. The sources of cheap fat mentioned in 1917 have now become expensive, and pork is too dear to rely upon. Herrings are uncertain, and their fat value is liable to change.

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## INFANT MORTALITY.

### STATISTICAL STATEMENT.

The number of deaths per 1,000 children born in 1917 was 111.29, as compared with 111.24 in 1916. Both figures mark a considerable fall in infant mortality as compared with that holding for other recent years.

The actual figures were: for 1913, 128.73; 1914, 128.64; 1915, 128.63; 1916, 111.24; 1917, 111.29.

It would appear from the above figures as if a sudden improvement occurred in 1916, and no doubt the alteration in mortality is considerable.

The above figures, however, do not accurately represent the infant mortality as reckoned in deaths per 1,000 births, since a rapid and continuous fall has been occurring in the birth-rate in recent years.

The first year in which this was very conspicuous was 1915, the number of births falling from 17,904 in 1914 to 15,895 in that year. The figure 128.63 for 1915 is, therefore, too high.

But this is also true of 1915 and 1916, and of 1916 and 1917, the last-named fall being greater than the previous one.

The figure for 1917 is, therefore, too high also, and the whole fall is probably greater and more graduated than the figures show.

It appeared desirable to ascertain, if that were possible, what meaning is to be attached to the improvement which has taken place, and I have, therefore, had the infantile mortalities calculated out for the five years 1913-1917 from an extensive list of causes, and not only for the whole year, but also for the periods under 4 weeks, 0 to 3 months, 3 to 6 months, and 6 months to 1 year.

The most conspicuous fact, when the figures are taken for the whole year, is the marked rise in the infantile mortality-rate from Syphilis, which advanced in the five years as shown in the successive annual figures: 1.94, 2.84, 2.41, 3.92, 3.90.

It might be anticipated that a similar, though less conspicuous, rise would be evident in the figures for premature birth. This, however, is not the case, the infant mortalities from this cause being less in 1915, 1916, and 1917 than in 1913 and 1914. Not only so, but the infantile mortalities from atrophy, debility, and marasmus are considerably lower in the last two than in previous years. The allied causes of death, then, do not support the figures for infantile Syphilis, and one is obliged to ask whether this is a real increase or a fictitious one produced by greater attention being given to the subject. Were such the case, we should expect a marked fall in some corresponding group. Possibly the fall under the atrophy group, which is much greater than the rise under Syphilis, may partly be due to this cause.

There is no corresponding fall in any other group.

It is probable that the rise in infantile mortality from Syphilis is to some extent real, since there is no doubt that Syphilis is more prevalent than formerly.

The conspicuous fall in infantile mortality in 1916 and 1917 is not due to either Measles or Whooping Cough, the two infectious diseases which have the greatest influence on infantile mortality, the average mortality from Measles for the two years being but little below the average for the five years, and that from Whooping Cough being above the average.

We must, therefore, enquire how other mortalities of a more permanent or of a fluctuating character have behaved. The average mortality from Tuberculous diseases (including Tuberculous Meningitis, Abdominal Tuberculosis, and other Tuberculous diseases) was for the five years 3.81. In 1916 the corresponding figure was 2.58, while in 1917 it was 4.14. The improvement under this head was therefore considerable in 1916, but the mortality in 1917 rose to the level of 1914.

Slight improvement is apparent under the heading Rickets.

A considerable mortality is always ascribed to Convulsions, which was high in both 1916 and 1917, and more especially so in 1917, in which year the mortality was 4.44, as compared with 2.59 in 1915 and 3.10 in 1913. No improvement, therefore, appears under this head, but the reverse.

Convulsions as a cause of infantile mortality is partly due to permanent, partly to temporary, causes. Amongst the permanent causes may be put Rickets and Gastric disorders not of an epidemic character. There is, however, nothing pointing to these as having been so much in evidence as formerly. The causes of the increase must, therefore, lie somewhere amongst the infectious diseases.

Suffocation as a cause of death shows a diminution, though a slight one.

Injury at birth produces for the two years a mortality somewhat below the average, Atelectasis being somewhat above the average.

Congenital malformations in 1917 produce a mortality well above the average.

Other causes show a decided improvement.

But, on the whole, there is nothing in these more permanent causes of mortality to give one any confidence that a higher platform has been reached.

We may now enquire how we stand as regards the cases of infantile mortality which are more liable to fluctuations, whether from atmospheric or epidemic causes.

We have already seen that slight improvement has occurred under Measles and retrogression under Whooping Cough.

Scarlet Fever and Diphtheria both show some improvement, as does also Erysipelas.

Some improvement also appears under the heading Meningitis (not tuberculous).

Under Bronchitis, 1916 has the highest mortality of the five years, and 1917 shows a decidedly higher mortality than in 1913 and 1914.

From Pneumonia, however, there has been a decided fall, which may be in part due to the greater care bestowed on cases of Measles.

From the Diarrhœal group of diseases (including Diarrhœa, Enteritis, and Gastritis) there has also been a marked fall in mortality, the average for the three years being 20.99. The figure for 1916 was 15.28, for 1917 17.15.

These two causes alone—Pneumonia and Diarrhœa—make up practically the whole of the gains in each of the last two years.

It is somewhat difficult, in view of the above analysis, to account for the increase under the heading of Convulsions, and this cause of death requires to be carefully observed.

The advance which we appear to have made rests, it will be seen, on no very secure foundation, and too much disappointment must not be felt if we encounter occasional set-backs.

We may now briefly enquire at what periods of life the changes which have been discussed in relation to the whole year are most marked. Some of the causes of infant mortality manifestly do not need revision, such as prematurity, injury at birth, and so forth.

#### *Under 4 Weeks.*

The most conspicuous benefit which we derive from an examination of the mortality under 4 weeks is that we are reminded of the conditions under which the deaths of feeble infants are recorded, and of the special measures which are required at early ages. The outstanding class is that of premature infants, from which at this early period an average mortality occurs of no less than 18.5 per 1,000. With this we associate injury at birth, atelectasis, and congenital malformation. These together give an average mortality of 6.91 per 1,000 births for the first four weeks of life. The corresponding figures are: for 1916, 6.48; for 1917, 6.62. Thus, as in the case of prematurity, there is a slight reduction in the rate of mortality for the last two years. It is probable that, as the education of midwives improves, a further improvement may be effected at this point. Moreover, further investigation is needed into the causes of prematurity.

The other causes of death which are much in evidence at this early period are Bronchitis and Pneumonia, though the mortality is not so high as it is later on in the year. Convulsions, however, figures conspicuously, and in 1917 the mortality is comparatively high. The digestive group are also in evidence, though they exact a higher mortality later on. Meningitis already takes a well-marked place.

All these may be regarded as marking the susceptibility of immature and rapidly-developing organs, and as showing the need for close observation and intelligent care.

On the other hand, the group of infectious diseases exhibits at this early period a comparatively low rate of mortality.

The mortality from Syphilis is highest soon after birth, and continues to decline throughout the year.

The group "Other causes" belongs chiefly to this stage of immaturity, and the mortality from this group is by far the heaviest at the commencement of life.

#### 1—3 Months.

Bronchitis is a cause of death which becomes most prominent at this period. This is also the case with Enteritis, which circumstance is doubtless connected with the early age at which many poor children are weaned. The fatality from Diarrhœa has already reached its full height.

#### 3—6 Months.

Whooping Cough is now conspicuous as a cause of death. The mortality from Tuberculosis has reached its maximum, as has that from Meningitis. The mortality from Enteritis has also reached its maximum, while that from Gastritis is rapidly declining. From Diarrhœa, also, the mortality is now at a maximum. From Bronchitis the mortality is now declining, while from Pneumonia it is advancing.

#### 6—12 Months.

Measles and Whooping Cough have now become formidable causes of mortality, while Diphtheria fatality has greatly increased. The mortality from Tuberculosis remains at the same level. That from Pneumonia is now at its highest point, indicating that Bronchitis and Pneumonia are only in part synonymous terms, and also that infectious disease is becoming more prominent.

The decline in mortality from the second quarter to the last half year is not nearly what it ought to be, chiefly owing to the effects of infectious disease.

To sum up, the great improvement noted during 1916 and 1917 is essentially an unstable one, and much work is required to secure the position now attained. The efforts put forth need to be maintained and increased if further advance is to be made.

There is manifest an ominous advance under the head of Venereal Disease.

Some improvement is evident as regards feeding and the general care of young children.

#### *Infantile Mortality in Illegitimate Children.*

The mortality among illegitimate children and the fate of these unfortunates is one of growing importance. In 1917 the proportion of illegitimates to all children rose from 4 per cent. before the war to 6.2 per cent. The total number

of illegitimate births was 745, and the rate of infant mortality, reckoned on this number, was 236·2, or more than double that of legitimate births. The relatively high rate of mortality in illegitimate children accords with the experience of German towns and areas as given in the recent publication by the Intelligence Department of the Local Government Board. But the German mortality rates are much higher both for legitimate and illegitimate children. The percentage of illegitimates in Germany is also much higher, so that the public policy pursued in that country in regard to infant welfare work scarcely calls for imitation and requires careful scrutiny.

Illegitimacy appears, in Germany, to be attended with consequences to the infant even more disastrous than those which it causes in this country.

It appeared desirable to analyse the infant mortality rates for illegitimates for the year 1917, with a view to see how illegitimacy operates in raising the mortality rate, and the figures bring out some interesting facts, though their value is discounted by the smallness of the numbers.

The most striking figures are those which relate to Syphilis and prematurity.

The mortality from Syphilis was 22·8 per 1,000, as compared with 3 per 1,000 for all births; from prematurity it was 47 per 1,000, as compared with 20·83 per 1,000 for all births.

From injury at birth, atelectasis, and congenital malformations it was 26·9 per 1,000, as compared with 8·20 for all births. From Enteritis it was 34 per 1,000, as compared with 11·97. From Tuberculous Disease it was 12·1 per 1,000, as compared with 3·81. From Convulsions it was 9·4, as compared with 4·44.

In other directions the discrepancy is much less. These are all causes which may be put in association either with ill-health on the part of the mother, or insufficient care of the child, and one can only repeat that the fortunes of illegitimate children need to be followed with greater individual attention than hitherto.

#### *Work of the Health Visitors.*

This is fully set forth in Miss Seed's report, and little comment is needed. It will be seen that the number of visits paid by the Health Visitors has increased. It is not certain that this is an advantage, though it indicates that the amount of work carried out is closely observed. Nothing, however, would be easier than for a visitor to increase the number of her visits at the expense of quality. Miss Seed may be trusted to see that this is avoided as far as practicable, but the danger exists.

It will be seen that a number of primary Measles visits is included in the work done under the Notification of Births Act. This will have the effect of reducing the proportion of subsequent to total visits. This proportion is not greatly amiss.

But, in Manchester, it may be taken that one visit a month during the first year is not too much. Hence the proportion of subsequent visits is still on the low side. The subsequent visits to children over one year of age is decidedly too low for Manchester, though doubtless these visits are paid to the more urgent cases.

House to house inspection has fallen out altogether. The primary object of these inspections is to maintain a high standard of cleanliness, and it is unfortunate that they have had to be given up to meet other demands.

On the other hand, the Measles work has been well carried out. In order to relieve the health visiting staff and enable them to pursue more steadily their work of infant visiting, it was proposed to have recourse to the assistance of the Manchester and Salford District Nursing Association, particularly in severe cases. The terms asked, however, are so much in excess of what is paid elsewhere, as shown in the report of the Local Government Board, that it has been determined not to pursue the work on those lines. It would be better and more economical to engage additional health visitors. It will be noted that Whooping Cough has been taken over by the health visitors. If this is to be pursued with success, it will be necessary to make Whooping Cough a notifiable disease. Notifications from the Education Department are uncertain as regards the period elapsing between the occurrence of the disease and the time at which we receive the intimation from the Department. Moreover, young children suffering from Whooping Cough in a large proportion of instances necessarily do not come under the notice of the Department.

Table 2 summarises the work set forth in Table 1 in a convenient form. Attention may be specially called to the manner in which the great mass of facts has been reduced to order. This is due, in part, to the excellence of the clerical staff. It would be well to add a column showing the number of cases of Diarrhoea visited during the year.

It may be added that five health visitors have been recently added, making up the total number hitherto sanctioned by the Local Government Board.

There is great pressure on accommodation, and the present arrangement of the offices is extremely inconvenient. The different branches of Public Health should be collected in one building, as is the case in other Health Departments, though it will doubtless be difficult to find or construct a suitable building.

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## STATEMENT OF WORK DONE BY THE HEALTH VISITORS.

BY MISS SEED.

During the year 1917 the Infant Life Preservation Sub-Committee met eleven times.

The staff at the end of the year consisted of the Superintendent, the Assistant Superintendent, five Female Clerks, a Cleansing Nurse, and 36 Health Visitors, 31 of whom were fully-certificated Nurses, and received salaries ranging from 30s. to 45s. a week, the remaining five having been taken over from the Ladies' Public Health Society by the Corporation in 1908, their salaries varying from 25s. to 31s. 6d. a week. Twelve of the Health Visitors resigned and twelve new appointments were made.

There has been little change in the general work of the Health Visitors during the year. As in 1916, the pressure of the Measles work again prevented any house-to-house inspection being carried out and greatly interfered with the regularity of the infant work. In October, 1917, the Medical Officer of Health deemed it advisable to hand over the investigation of cases of Whooping Cough to the Health Visitors. As this disease is only notifiable, so far as the School Authorities are concerned, under Section 56 of the Local Act, very many other cases, particularly among the younger children, were discovered by the Health Visitors; and it is to be hoped that the care and supervision given to these cases, combined with the grant of milk and coal, which we were able to allow when the income of infected households fell below the standard scale, was conducive to some extent towards lowering the death-rate from this disease.

Table 1 shows the work done throughout the year in each district worked by the Health Visitors.

Table 2 compares the work of 1917 with that done in the preceding year.

*Infant Welfare Work.*—In accordance with the general fall in the birth-rate of the City, there has been a corresponding reduction in the number of births referred to the Health Visitors. The total number of notifications received under the Notification of Births Act was 11,818, of which 3,225 were made by doctors, 8,178 by midwives, and 415 by the parents. Out of the total of 11,818, those occurring in the districts covered by the Health Visitors numbered 7,194. The registered births within the City numbered 12,841, and 8,311 were referred to the Health Visitors. Apart from these figures, 115 other infants were discovered by the Health Visitors.

Every effort was made to bring all new births under observation as soon as they left the care of the doctor or the midwife, in order that each Health Visitor might obtain the earliest possible knowledge of the infants she was to have under her care until handed over to the Education Authorities at school age, and also with a view to the encouragement of perseverance in breast-feeding, which is so often, unfortunately, exchanged for mixed or entirely artificial feeding on the very slightest pretext. A rough calculation as to the method of feeding gives us the information that at the time of the Health Visitor's first visit approximately 83 per cent. of the total births were being breast-fed. Possibly this figure is rather too low, for there are a certain number of births amongst those occurring in the visited districts which, for various reasons, are never seen by the Health Visitors, and which are in all probability having natural feeding. It was pleasing to note that the greatest number of breast-fed cases occurred in the districts which had been longest under supervision.

*Deaths.*—987 deaths of infants under one year of age occurred in the districts covered by the Health Visitors during 1917. Of these, 102 lived less than a day, 86 died within a week, 145 died within a month, 165 died under three months old, 178 under six months, and 163 under nine months; the remaining 148 died between the ages of nine months and one year.

In 224 cases death was due to Bronchitis and Pneumonia, in 152 cases to Prematurity, in 147 cases to Enteritis, in 135 cases to Debility and Marasmus, in 66 cases to Convulsions, in 50 cases to Accidental Deaths, including those due to want of attention at birth; 40 cases died from Tuberculosis, and 37 from Syphilis, and the remaining 136 deaths were due to various other causes.

Table 3 shows the distribution of deaths according to districts.

*Summer Diarrhœa.*—From July 15th to September 30th, 1917, 636 cases of Diarrhœa were visited. Of these, 115 occurred during the last two weeks in July, 335 during the month of August, and 166 during the month of September. This figure is greatly in excess of that quoted for a longer period in 1916, when only 285 cases were visited.

In Ancoats 116 cases were visited, 18 in London Road and Deansgate, 131 in St. George's (including Monsall district), 43 in Ardwick, 90 in Hulme, 34 in Beswick, 39 in Bradford, 32 in West Gorton, whilst in Gorton only 12, in Openshaw 18, in Miles Platting 11, and in Newton Heath 15 cases were found.

325 of the total cases were children under 12 months, and of these 68 were having breast-feeding, 64 mixed feeding, and 194 entirely artificial feeding at the onset of the illness.

129 cases died, though not all of the deaths were ascribed to Diarrhœa. 90 deaths were those of children under one year of age.

*Child Welfare Centres and the Babies' Hospital.*—The close co-operation between the Health Visitors and the Child Welfare Centres still continues. The Health Visitors attend in turn and at regular intervals the doctors' consultations at the centre which serves their district; and, apart from the gain this must be to the Health Visitors, there is another little advantage due to the personal influence of the Visitor herself. Diffident mothers are more willing to attend the centre when they know their own Health Visitor will be present. This, of course, applies particularly to first visits to the centres.

Bi-weekly lectures were given to the Health Visitors by the Medical Officers attached to the centres until the heavy work in connection with the Summer Diarrhœa so greatly interfered with their regularity that eventually they were entirely discontinued.

Through the Centres the Health Visitors are in touch with the Manchester Babies' Hospital. Delicate and ailing infants are referred by them to the centres, and, if suitable cases, are from there passed on to the Babies' Hospital. Also, when an infant is discharged from the hospital it is visited as soon as possible by the Health Visitors, who are thus better enabled to judge for themselves what progress the child is making.

*Measles, German Measles, and Whooping Cough.*—10,749 cases of Measles, 641 of German Measles, and 533 of Whooping Cough have been visited, and kept under supervision until satisfactory. The distribution of these diseases throughout the City and the mortality therefrom are to be found elsewhere in this annual report.

On account of the more urgent need of frequent visiting in the poorer and more crowded areas of the City, and as the death-rate from Measles has generally been very low in the district of Withington, it was decided in October to discontinue investigating cases of Measles, German Measles, and Whooping Cough in this district for the time being. This afforded considerable relief elsewhere, and practically released two whole-time "Measles" Visitors for work where the need was greatest.

Early in 1917 a grant of £200 was allowed by the Infant Life Preservation Sub-Committee in connection with the Measles investigation work. This has been used solely for the provision of milk for infected children up to five years of age in households where the family income was below the standard scale,

as obtained from a modified form of Attwater's scale, to be found in Rowntree's book on "Poverty." Commencing February 15th, we have throughout the year accepted 435 applications for milk, and 5,803 pints have been given.

Another grant of great assistance in this work, and particularly when the complications of Pneumonia or Bronchitis made their appearance, has been the generous gift of coal which we received in December, 1916, and which was mentioned in the annual report for that year. Up to the end of 1917 we had accepted 1,430 applications for the gift of coal and a corresponding number of tickets was issued, but on recounting the tickets collected from the Highways yards, which were used as distribution centres, it was found that only 1,364 of the tickets issued had been used, and 2,457 cwt., or approximately 123 tons, of coal had been given out.

In addition to the necessary condition of an inadequate income, we have endeavoured to use these grants of milk and coal as a means towards the better nursing of young patients at home, and have insisted upon the necessary instructions given by the Health Visitors being carried out, as far as means would permit, before granting the application for relief.

*Verminous Work.*—This work shows a marked increase this year as compared with that done in 1916. The notifications received from the Education Authorities in respect of verminous cases numbered 724, but only five as regards Scabies. The Cleansing Station was in use on  $35\frac{1}{2}$  days at the request of the Education Authorities, and on  $2\frac{1}{2}$  other days for the purpose of cleansing nine cases whose verminous condition was beyond the cleansing by home methods. Altogether, 226 children were cleansed. This work is still carried out by the Special Nurse appointed by the Infant Life Preservation Sub-Committee.

Of the 226 children brought to the Station, 29 had body vermin only, 70 had head vermin, and 136 were suffering from both body and head vermin; 12 children were suffering from Impetigo, and 5 others from Blepharitis, Discharging Ears, etc. Legal proceedings were taken against the parents on account of the verminous condition of their children in 39 instances, and 23 fines of 5s., 8 fines of 2s. 6d., 5 of 10s., and 1 of 7s. 6d. were imposed.

In addition to her work at the Cleansing Station and the other duties deputed to her, the Special Nurse has visited 21 new cases of vermin, etc., and has paid 76 subsequent visits with reference to the same. These cases were principally those outside the Health Visitor's areas, but included a few special cases needing constant visiting and care.

Some cases of neglect, both verminous and from other sections of the work were reported to the N.S.P.C.C. About 38 such cases were referred throughout

the year, and visits from the Society's Officers have been helpful, even without resorting to a prosecution. We were required to give evidence in the case prosecuted by the N.S.P.C.C. for verminous conditions and general neglect.

We are again indebted to the Lord Mayor, through whose kindness we received a supply of Charity Forms, which enabled us to recommend a number of necessitous cases for gifts of sheets, blankets, or flannel. We also received a number of flannel garments for infants, and for these our best thanks are due to Councillor Miss Ashton, who kindly arranged for their being made. These garments are distributed by the Health Visitors as occasion arises.

A summary of the work done by the Health Visitors under the supervision of the Ladies' Society for visiting the Jewish poor, and of the Medical Officer of Health, is given in the following tables:—

*Work of the Jewish Health Visitors during the year 1917.*

DISTRICT	HOUSE-TO-HOUSE INSPECTIONS								RE-INSPECTIONS			INFANTS
	Number of Visits	Overcrowdings	Disrepair	Dirty	Cellars Dirty or Dilapidated	Yards Defective	W.C.'s Defective	Referred to Sanitary Dept.	Number	Defects Remedied	New Complaints Referred	
Red Bank.. ..	394	9	139	11	183	45	9	98	1099	133	112	1128
Strangeways ..	492	..	141	2	12	27	30	182	500	142	53	859
TOTAL ..	886	9	280	13	195	72	39	280	1599	275	165	1987

*Limewashing.*

DISTRICT	Bed-rooms	Kitchens	Yards	W.C.'s	Cellars	Coal Places	Ceilings	Stair-cases	Sculleries
Red Bank ..	21	31	115	100	12	..	6	10	33
Strangeways .	13	5	70	51	32	1	14	3	15
TOTAL ..	34	36	185	151	44	1	20	13	48

TABLE 2.—SHOWING THE WORK DONE BY THE HEALTH VISITORS DURING THE YEAR 1917 AND COMPARING IT WITH THE WORK DONE IN 1916.

Classification of Visits	Number of Visits Paid in 1916	Number of Visits Paid in 1917
Primary visits to Infants .. .. .	10,091	9,027
Subsequent visits to Infants .. .. .	61,113	57,132
Subsequent visits to Children over one year of age	9,265	22,036
Other visits <i>re</i> Infants and Young Children	1,184	1,243
House to House Inspections .. .. .	968	....
Re-inspections .. .. .	1,445	....
Special visits <i>re</i> Sanitary Defects .. ..	551	1,541
Visits <i>re</i> Limewashing .. .. .	2,195	1,977
Primary visits to Verminous Cases.. ..	145	709
Subsequent visits to Verminous Cases ..	1,038	2,233
Measles Investigations .. .. .	9,244	10,818
Subsequent visits .. .. .	19,032	23,295
German Measles Investigations . .. .	1,168	650
Subsequent visits . .. .	1,678	591
Whooping Cough Investigations .. ..	....	536
Subsequent visits .. .. .	....	705
Visits <i>re</i> Relief .. .. .	....	1,069
Special Investigations .. .. .	....	149
Total visits .. .. .	119,117	150,555
Number of Health Visitors at end of the year	36 (only 35 working, one ill)	36
Number of Districts worked .. .. .	32 (one not worked owing to illness of Health Visitor)	32 (Blackley not worked owing to pressure of other work)

TABLE 3.

DISTRICTS	Number of Deaths	CAUSES OF DEATH								
		Bronchitis and Pneumonia	Prematurity	Enteritis	Debility and Marasmus	Convulsions	Accidental Deaths, including Want of Attention at Birth	Tuberculosis	Syphilis	Others
Ancóats .. ..	124	35	16	23	13	5	6	5	6	16
London Road ..	22	12	3	1	1	2	1	1	..	..
Deansgate .. ..	22	5	8	2	2	1	3	..	..	1
St. George's ..	131	20	18	29	21	11	6	4	6	15
Chorlton-upon-Medlock	96	12	26	12	15	4	9	5	5	9
Hulme .. ..	148	37	19	25	14	12	5	6	5	23
Ardwick .. ..	107	23	12	15	25	6	6	6	3	14
Openshaw .. ..	23	5	4	3	..	..	..	2	1	9
West Gorton ..	41	8	8	6	6	2	1	2	2	8
Gorton .. ..	74	21	11	9	4	5	2	4	2	14
Beswick .. ..	37	13	4	1	8	2	3	1	..	5
Newton Heath ..	34	2	8	4	8	6	..	..	..	6
Monsall .. ..	35	7	3	7	3	4	2	1	2	4
Miles Platting ..	27	8	5	3	2	..	2	2	2	3
Harpurhey .. ..	32	10	5	1	5	4	1	1	..	6
Bradford .. ..	34	6	2	6	8	2	3	..	3	3
TOTAL .. ..	987	224	152	147	135	66	50	40	37	136

TABLE 1.—HEALTH VISITORS' WORK, 1917—DETAILED STATEMENT.

TABLE I.—HEALTH VISITORS' WORK, 1917.—DETAILED STATEMENT.																																		TOTAL NO. OF VISITS			
DISTRICT	INFANT WORK								LIMEWASHING													VERMINOUS WORK		MEASLES WORK				*WHOOPIING COUGH		MISCELLANEOUS							
	No. of Births referred to Health Visitors	Primary Visits	Subse- quent Visits	Children over 12 months	Neglected Children		Investi- gation of Diarrhoea	Cases Reported to N.S.P.C.C.	Sanitary defects found during other work			Visits	Bedrooms	Kitchens	Vards	Closets	Cellars	Coal Places	Ceiling	Staircases	Others	No. of Linewash Tickets Given	Primary Visits	Subse- quent Visits	Measles		German Measles		Primary Visits	Subse- quent Visits	Sick Children	Visits re Relief	Visits re Inquests		Visits "Out"	Special Investiga- tion Visits	
					P.	S.			Found	Remedied	Visits														Primary Visits	Subse- quent Visits	Primary Visits	Subse- quent Visits									
Ancoats—West ... ..	144	151	2,710	251	2	6	8	...	24	27	26	225	86	98	105	107	9	22	16	40	14	95	44	243	70	173	...	1	...	...	20	...	...	763	4	4,706	
„ North ... ..	200	222	2,658	697	3	3	11	...	39	45	115	180	81	67	79	79	31	32	15	16	...	66	33	50	48	181	1	1	1	...	33	38	1	834	1	5,111	
„ Central ... ..	135	142	995	1,142	...	...	8	...	15	4	57	20	2	1	2	2	...	...	...	...	...	13	20	97	128	559	1	...	4	3	2	31	...	365	...	3,574	
„ South... ..	158	153	2,081	551	...	...	3	2	45	52	99	262	74	113	135	135	40	72	155	51	3	123	24	93	172	757	1	3	5	20	8	37	...	230	4	4,509	
„ East ... ..	147	178	1,823	1,063	...	1	3	...	134	108	85	267	35	66	102	104	5	39	88	10	...	77	20	75	145	567	...	...	...	4	20	9	2	175	10	4,447	
London Road and Deansgate { 139 } { 89 }	238	1,969	1,062	1	6	5	...	30	3	4	10	...	2	7	2	...	...	3	...	...	12	32	60	190	246	2	1	32	49	34	26	...	931	1	4,899		
St. George's—North ...	253	258	2,153	627	...	...	9	1	24	22	16	62	50	15	13	13	...	...	3	24	1	26	11	41	28	132	...	...	...	...	...	...	395	...	3,732		
„ East ... ..	247	272	1,516	1,475	12	7	15	1	80	77	26	165	35	63	70	68	3	2	12	3	...	40	33	102	28	219	4	2	...	...	23	19	2	418	4	4,342	
„ Central ... ..	342	335	1,456	692	...	...	10	...	18	31	35	49	4	7	20	20	...	2	...	2	...	13	31	83	489	898	1	4	...	...	1	58	4	745	2	4,893	
C.-on-M.—North ... ..	305	321	1,315	932	30	62	10	...	23	13	47	6	...	...	...	...	...	...	...	...	...	12	4	11	135	230	2	1	2	...	...	45	7	708	13	3,881	
„ South ... ..	†530	645	1,610	223	12	17	6	2	14	6	16	1	...	...	...	...	...	...	...	...	...	14	31	250	372	41	31	1	2	0	64	2	490	6	3,843		
Hulme—Central ... ..	206	264	1,928	980	3	1	8	5	64	45	20	55	2	6	12	12	6	1	...	...	1	25	25	61	240	482	2	2	7	24	...	87	1	206	21	4,417	
„ East ... ..	233	216	1,222	925	3	15	5	1	11	24	22	44	39	5	36	43	1	1	34	2	...	36	24	73	201	617	2	...	...	...	21	39	...	496	...	3,925	
„ West ... ..	276	240	1,102	807	...	1	2	5	46	57	79	58	9	...	23	23	6	6	9	...	4	19	25	97	462	820	16	9	15	4	11	80	4	988	...	4,820	
„ South ... ..	†491	508	1,265	766	4	6	6	...	10	9	8	3	...	1	1	1	...	...	...	...	1	13	14	11	333	633	12	11	6	4	28	31	3	583	4	4,239	
West Gorton ... ..	†367	326	2,085	1,045	1	3	4	2	75	85	20	2	4	...	4	2	...	...	1	...	...	8	21	121	80	337	14	28	...	...	9	21	3	1,003	6	5,129	
Gorton... ..	†440	480	2,144	381	4	7	4	4	68	54	123	149	19	6	25	35	1	1	2	3	...	62	13	61	81	306	4	13	4	...	28	60	2	995	6	4,865	
Gorton—East ... ..	318	213	368	19	6	2	...	...	8	...	1	...	...	...	...	...	...	...	...	...	...	9	5	157	182	...	...	9	16	3	...	...	277	...	1,267		
Openshaw ... ..	202	218	1,448	1,332	1	1	2	...	24	9	14	2	...	...	...	...	...	...	...	...	...	9	31	79	182	516	2	10	18	16	48	10	4	418	3	4,364	
Ardwick—North ... ..	206	293	1,379	1,016	...	...	2	...	18	14	23	53	1	2	8	8	...	...	5	...	...	24	19	41	212	467	7	2	10	22	21	32	...	358	2	3,959	
„ South ... ..	194	257	1,661	1,102	...	...	4	...	8	14	2	...	...	...	...	...	...	...	...	...	...	4	25	299	302	523	11	23	5	6	46	51	8	212	2	4,539	
„ East ... ..	†491	551	2,602	440	3	6	9	1	34	22	20	...	...	...	...	...	...	...	...	...	...	1	36	63	85	220	4	6	7	4	33	29	5	785	16	4,924	
Beswick ... ..	227	232	1,858	1,456	...	1	...	...	77	92	88	266	20	17	104	103	3	1	13	...	3	13	32	93	277	1,069	4	17	7	4	1	22	2	418	2	5,849	
Miles Platting ... ..	†317	352	1,289	892	...	...	4	...	25	15	22	9	1	1	4	4	...	6	2	...	...	21	14	55	175	409	1	...	10	13	2	19	2	249	4	3,521	
Monsall ... ..	286	331	2,206	1,315	...	5	12	3	45	45	97	15	5	3	3	3	...	...	2	...	...	13	22	91	165	369	...	...	7	15	37	30	2	587	22	5,328	
Newton Heath ... ..	†348	431	2,012	177	2	8	8	8	7	...	3	...	...	...	...	...	...	...	...	...	...	...	26	30	250	877	4	14	1	5	8	20	1	431	...	4,308	
Bradford ... ..	232	260	1,646	537	1	8	7	3	145	114	138	73	23	20	16	19	...	...	8	2	2	17	60	82	286	1,241	3	5	12	5	76	41	5	454	12	4,952	
Harpurhey ... ..	291	311	1,349	...	...	1	5	...	86	51	39	...	...	...	...	...	...	...	...	...	...	32	69	708	1,118	...	8	5	5	43	36	6	658	4	4,397		
District I. ... ..	241	265	4,546	...	...	...	...	...	41	43	16	...	...	...	...	...	...	...	...	...	...	...	...	...	62	115	...	...	...	...	...	...	...	...	...	...	5,004
„ II. ... ..	256	281	4,480	...	...	...	...	...	34	55	61	...	...	...	...	...	...	...	...	...	...	...	...	...	28	46	...	...	...	...	...	...	...	...	...	...	4,896
Measles I. ... ..	...	18	116	25	...	...	1	...	...	32	124	...	...	...	...	...	...	...	...	...	...	1	8	1,023	1,096	24	44	77	130	64	9	9	400	...	4,078		
„ II. ... ..	...	48	65	22	...	...	1	...	4	18	6	...	...	...	...	...	...	...	...	...	...	9	...	854	1,368	140	125	150	214	54	44	1	612	...	3,713		
„ III. ... ..	...	16	29	84	...	...	...	...	...	17	...	...	...	...	...	...	...	...	...	...	...	1	2	1,105	2,246	30	24	45	58	23	1	...	163	...	3,827		

\* Whooping Cough was taken over by the Health Visitors on October 20th, 1917. † These districts have now been sub-divided, making the distribution of births more equal. ‡ Worked Measles for six months only.



## THE SCHEME FOR DISTRIBUTION OF MILK UNDER COST.

Towards the end of 1916 the School for Mothers commenced to distribute milk at the Child Welfare Centres under cost to mothers who could not afford to pay the full price. The principle upon which such assistance was given was the subject of some discussion, and the Committee arrived at the conclusion that the grant of milk at less than cost price should only be made where the Medical Officer to the Centre gave a definite prescription for its supply, and only after the individual case had been investigated by the Charity Organisation Society.

In the autumn of 1917 the School for Mothers found this to be a growing burden, which the funds of the Society would not be able to sustain, and requested the Corporation to take this supply over. This they agreed to do, on the understanding that the proposal received approval and financial assistance from the Local Government Board, and that the expenditure did not exceed £70 per month. This was not the sum estimated by the School for Mothers, but the Committee considered that it should suffice. The approval of the Local Government Board was obtained, but the expenditure incurred considerably exceeded the estimate.

For this there were two chief reasons. One was that the expenditure incurred was concealed by the delay of milk dealers in sending in their accounts. The other, I regret to say, was owing to the fact that when the scheme was taken over no precaution was taken to fix the amount of expenditure as it was occurring week by week. Otherwise, the machinery applied to the control of the supply worked well on the whole.

The most important part of the control consisted in the enquiry by the C.O.S. into the circumstances of recipients, and in the assessment of their financial position. For this purpose a standard income was calculated in each case according to the Atwater Scale on the plan given in Mr. Rowntree's book, with the addition of 100 per cent. to the cost of food and 100 per cent. to the cost of household sundries. The calculations are made in the Health Visitors Office, under the supervision of Miss Seed, all statements being forwarded by the C.O.S. to the Medical Officer of Health. The enquiry forms, after these calculations are made, are sent on to the Centres, and are used to revise the position of recipients at intervals of one month. This work is carried out by the Superintendent Nurse, and will itself need revision from time to time. When finished with, the enquiry forms are returned to the Public Health Office.

As the expenditure had greatly exceeded the amount agreed by the Sanitary Committee by February, 1918, it became necessary to curtail the expenditure, which was effected by raising the price of milk.

The result was that very few applications were subsequently received. But the Sanitary Committee and the Finance Committee having considered the causes of the excess expenditure, and the advantages likely to ensue to the health of children by its continuation, passed a much larger proposal, viz., to provide milk-distributing centres in association with the Child Welfare Centres organisations, and extend these to cover as wide an area as possible. The estimate of expenditure was £10,000 for milk and £500 for administrative expenses, the Local Government Board to pay half the expenditure. The Local Government Board have sanctioned this proposal provisionally, it being understood that the machinery would remain the same and be applied to any new centre provided by the Corporation.

In order to safeguard the financial expenditure, a return is made to the Medical Officer of Health by the Superintendents at each centre each week, showing the number of new cases allowed milk, the amounts allowed, and the total cost (added per week) falling on the public funds. It is scarcely possible that any sudden increase in expenditure could take place under this system.

Arrangements are now in progress to have 15 Milk Distributing Centres in operation in September, each provided with the services of a Medical Officer and Superintendent.

The expenditure at the whole of the Centres incurred in assisting by the supply of milk at a reduced price is as follows :—

Nov.	Dec.	Jan.	Feb.	March	April	May	June
£136	£166	£166	£202	£49	£43	£30	£40

Thanks are due to the School for Mothers for the valuable assistance rendered in carrying out this scheme.

### CHILD WELFARE CENTRES—8 IN NUMBER.

The following table explains the course of the work during the year 1917, and requires little comment. It shows under the headings "Number of babies weighed" and "Consultations" marked progress during the year at all the Centres. How much of this is to be ascribed to the attraction offered by the opportunity to obtain milk at a reduced price it is not easy to say. But it is noteworthy that the attendance fell off during December, notwithstanding this benefit, and was highest in August, when it was not much in evidence. Evidently this is not the sole or even a main reason for the progress shown.

It must be in great measure ascribed to the excellent work done by the Medical Officers and Superintendents of the Centres.

The aggregate increase will be seen to be partly due to the fact that one of the Centres, viz., Higher Ardwick, was started early in the year, while that denoted by "Hulme," in Lower Moss Lane, was comparatively new.

The number of new cases is a more fluctuating quantity, although comparison of 1917 with 1916 shows that these markedly increased. Here, however, the progress as between the two years is less marked than it is under the number of weighings and the number of consultations. This, also, is a hopeful sign.

The treatment Centres reached the full number contemplated by the scheme, viz., 4, and the number receiving treatment greatly increased. But, in my opinion, it is not desirable to push treatment at the expense of consultations—a real danger.

During the year there was progressive increase in the number of massage sittings for the improvement of children suffering from Rickets and other forms of Malnutrition. This must be regarded as a most desirable and beneficial line of work.

The number of visits by the Superintendents to the homes of children varied month by month. In many instances, no doubt, these visits are a valuable adjunct to treatment at the Centre. But it is desirable to fit these visits in with the work of the Health Visitor, and as far as practicable this has been done. The understanding arrived at is that the Superintendent, after a visit to inform herself of the home conditions, hands the home-visiting over to the Health Visitor. In order further to connect the work, the Health Visitors attend at the Centres and see the consultations and other work in progress.

It has been explained in my last report that the School for Mothers works in intimate relation with the Corporation at these Centres. They give assistance at the weighings, hold classes, and when needful attend to the giving of dinners. Occasionally in time of special stress they find a substitute for the Superintendent. But they do not visit at the homes, and in all matters relating to the welfare of the children the Superintendent Nurse has charge of the Centre, except when the Medical Officer is present. The Superintendent Nurse is responsible only to the Medical Officer.

From November, 1917, the supply of milk at a reduced price to mothers, whose circumstances rendered such assistance needful, passed from the control of the School for Mothers to that of the Corporation, the financial liabilities being transferred at the same time. The School for Mothers, however, still gives valuable assistance in administering the scheme for this supply. With the relief to their funds obtained from this transfer they have embarked on fresh enterprises, and established new Child Welfare Centres at Rusholme and

STATEMENT OF WORK DONE AT THE CHILD WELFARE CENTRES DURING THE YEAR 1917

(PREPARED FROM THE RETURNS RECEIVED FROM THE CENTRES).

NUMBER OF BABIES WEIGHED										NUMBER OF NEW CASES								CONSULTATIONS								SPECIALISTS' CONSULTATIONS				TREATMENT CASES						MASSAGE								VISITS OF SUPERINTENDENTS OF THE CENTRES TO THE HOMES										
	70-72, Rosamond Street West	Manipur Street	Ancoats	Collyhurst Recreation Rooms	Gorton	Cheetham	Hulme	Ardwick	Total	70-72, Rosamond Street West	Manipur Street	Ancoats	Collyhurst Recreation Rooms	Gorton	Cheetham	Hulme	Ardwick	Total	70-72, Rosamond Street West	Manipur Street	Ancoats	Collyhurst Recreation Rooms	Gorton	Cheetham	Hulme	Ardwick	Total	70-72, Rosamond Street West	Manipur Street	Cheetham	Total	70-72, Rosamond Street West	Manipur Street	Ancoats	Collyhurst Recreation Rooms	Gorton	Cheetham	Hulme	Ardwick	Total	70-72, Rosamond Street West	Manipur Street	Ancoats	Collyhurst Recreation Rooms	Gorton	Cheetham	Hulme	Ardwick	Total					
January .. ..	409	546	185	205	275	201	118	..	1939	45	64	22	27	36	28	42	..	264	216	388	116	169	188	139	88	..	1304	68	89	..	157	86	136	..	..	222	17	40	..	..	..	..	..	57	42	85	64	53	64	92	60	..	460	
February .. ..	383	627	161	226	356	186	121	..	2060	35	79	23	55	42	24	22	..	280	182	349	114	177	237	132	95	..	1286	106	100	..	206	92	135	18	..	245	27	49	..	..	..	..	..	76	67	112	70	77	61	67	70	..	524	
March .. .. .	507	819	232	262	522	226	135	2	2705	36	107	25	53	62	24	12	2	321	239	416	170	190	286	174	112	2	1589	156	159	..	315	155	160	67	..	382	44	47	..	..	..	..	..	91	79	146	96	75	81	91	70	11	649	
April .. .. .	271	555	111	183	319	140	120	33	1732	27	71	10	26	37	10	18	22	221	153	249	97	132	173	103	91	29	1027	72	132	..	204	15	96	62	..	173	15	32	..	..	..	..	..	47	42	70	52	72	55	39	83	30	443	
May .. .. .	407	766	222	256	462	258	151	114	2636	31	110	33	46	51	39	16	35	361	202	358	176	175	240	194	103	77	1525	88	164	..	252	113	133	71	9	326	26	46	..	..	..	26	..	98	69	113	55	77	58	67	77	67	583	
June .. .. .	610	846	308	331	567	289	157	138	3246	81	97	37	58	67	42	15	23	420	284	400	223	172	330	221	117	76	1823	114	158	..	272	163	157	88	8	416	40	52	76	..	..	..	40	..	208	37	99	11	61	40	83	43	88	462
July .. .. .	730	886	393	372	696	318	208	175	3778	96	104	48	71	63	43	31	17	473	412	482	260	221	328	264	130	91	2188	109	186	..	295	214	160	106	18	498	50	65	74	..	46	..	44	..	279	40	108	49	57	50	83	49	81	517
August .. .. .	819	988	437	413	834	336	306	192	4325	82	95	29	69	62	38	23	24	422	462	562	309	254	479	269	207	91	2633	114	186	..	300	231	210	138	27	606	52	79	53	..	32	..	60	..	276	138	119	132	111	104	86	108	108	906
September .. .	799	829	370	349	764	246	274	214	3845	77	81	33	43	57	38	16	15	360	362	411	236	177	371	159	132	111	1959	136	155	..	291	219	143	128	33	523	49	74	64	..	59	31	53	..	330	51	95	65	42	84	57	64	103	561
October .. ..	740	781	372	333	776	366	294	222	3884	54	62	28	20	65	56	22	23	330	372	403	241	205	399	271	151	103	2145	151	149	..	300	244	156	132	23	555	58	67	73	..	47	33	59	..	337	44	79	50	84	38	87	77	117	576
November .. .	891	1162	518	469	1074	640	481	316	5551	71	103	40	79	79	81	46	18	517	431	611	326	303	547	395	272	130	3015	169	206	48	423	402	239	257	29	927	65	102	97	17	75	65	75	36	532	123	100	47	112	42	109	87	148	768
December .. .	523	634	268	305	587	348	269	161	3095	31	55	12	30	46	44	17	10	245	434	327	170	188	310	193	167	83	1872	89	104	56	249	295	148	184	33	660	31	42	56	26	30	24	34	23	266	78	61	51	79	64	75	70	84	562
Total .. .. .	7089	9439	3577	3704	7232	3554	2634	1567	38796	666	1028	340	577	667	467	280	189	4214	3749	4956	2438	2363	3888	2514	1665	793	22366	1372	1788	104	3264	2229	1873	1251	180	5533	474	695	493	43	289	153	391	59	2597	810	1187	742	900	741	936	858	837	7011
1916 Total ..	5424	7330	3331	3015	3195	1752	..	..	24044	671	1047	498	517	404	243	..	..	3380	3001	4399	2291	2171	1928	1138	..	..	14928	1139	1373	..	2512	1290	2212	..	..	3502	242	263	..	..	..	..	..	505	1260	688	1135	1086	854	726	..	..	5749	

# CHVELFARE CEN

RETUEIVED FROM THE CEN

## SPECIALISTSITS OF SUPERINTENDENTS OF THE CENTRES CONSULTATIO TO THE HOMES

Hulme	Total	70-72, Rosamond Street West	Manipur Street	Cheetham	Manipur Street	Ancoats	Collyhurst Recreation Rooms	Gorton	Cheetham	Hulme	Ardwick	Total
8	1304	68	89	..	85	64	53	64	92	60	..	460
9	1286	106	100	..	12	70	77	61	67	70	..	524
11	1589	156	159	..	46	96	75	81	91	70	11	649
9	1027	72	132	..	70	52	72	55	39	83	30	443
10	1525	88	164	..	13	55	77	58	67	77	67	583
11	1823	114	158	..	99	11	61	40	83	43	88	462
13	2188	109	186	..	108	49	57	50	83	49	81	517
20	2633	114	186	..	19	132	111	104	86	108	108	906
13	1959	136	155	..	95	65	42	84	57	64	103	561
153	2145	151	149	..	79	50	84	38	87	77	117	576
270	3015	169	206	48	100	47	112	42	109	87	148	768
1633	1872	89	104	56	61	51	79	64	75	70	84	562
16693	22366	1372	1788	104	187	742	900	741	936	858	837	7011
...	14928	1139	1373	..	688	1135	1086	854	726	..	..	5749



*Classes* have again been well attended, and courses of cookery demonstrations at each Centre by the Food Economy Lecturers have been keenly appreciated, the women taking notes of what they saw and heard.

*Observation Nurseries* at Openshaw and Collyhurst have proved of great value in dealing with children who are not thriving. They are open from 9 a.m. to 5 p.m. on five days a week, and accommodate, respectively, twelve and twenty-four children. The doctors at the Centres recommend cases for admission and continue to see them at the regular consultations, giving instructions as to treatment to the Matron and the mother. The aims of these nurseries are twofold: Firstly, to establish the children in good health; secondly, to teach the mothers how to keep them well when discharged. The mothers of those who are ordered massage are taught how to do it by the Matron, while all of them see the open-air life with regular sleep and the kind of food which their children receive.

*Spence Open-air Nursery*, at 20, Every Street, Ancoats, was opened on July 1st, 1918, to take ailing children from the Ancoats and Ardwick Centres. A bungalow building, with sliding doors along the south side, has been erected for the purpose, and 20 children can be taken at once. It is hoped that this nursery will not only benefit the inmates, but serve as a demonstration to the whole neighbourhood of the value of fresh air.

The Schools for Mothers Committee feel that nurseries of this kind are an important part of a Child Welfare Centre. By dealing with the slightly ailing child, they save many from becoming permanently delicate or seriously ill and in need of hospital treatment.

*New Centres.*—In response to continued demands, the Schools for Mothers opened consultation centres in April, 1918, in Levenshulme and Rusholme. Dr. Hickling is in charge of the fortnightly consultations; classes and health talks are held on intervening weeks. Already it is evident that Child Welfare work is needed among the well-to-do artisan class as much as among the very poor. In these outlying districts, often untouched by Health Visitors, the newly-married mother is almost as ignorant about babies as is her poorer neighbour; but she is proving herself quicker to learn, besides being in a position where she can better carry out instructions.

*Libraries* have been opened at two Centres, where the mothers can borrow books on health, child management, and many subjects of interest to them. These are much appreciated, and it is hoped to extend them to other Centres in the near future.

*A Dental Clinic*, opened in May, 1917, at 72, Rosamond Street West, treated 124 patients in the year. At present, extractions only are done. Mothers are sent by the doctors from all the Centres for treatment.

*The Holiday Home* at Mellor was open all the summer, and 105 mothers and 141 children spent one or two weeks there.

*Milk* at 4d. a quart was supplied to poor mothers attending the Centres all through 1917. At first, the Schools for Mothers, with the co-operation of the Medical Officers and Superintendents, controlled and financed this scheme for subsidised milk; but the need grew steadily, and on November 1st, 1917, the Sanitary Department of the Corporation undertook the financial responsibility and general supervision, aided, however, by the organisation of the Schools for Mothers in some of the administrative details.

\* H. K. ARMITAGE.

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### THE BABIES' HOSPITAL, SLADE LANE, LEVENSHULME.

As stated in my Annual Report for 1916, 18 beds were allocated to the Corporation in the Babies' Hospital under special conditions, determined partly by the fact that the source of admissions had largely been from the Child Welfare Centres of the School for Mothers. The approval of the Local Government Board to this arrangement was received on November 25th, 1916, and thenceforward it formed an integral part of the scheme. At this Institution, which is medically staffed by the Lady Medicals of the City, only children under one year of age are admitted, who are to be suffering from wasting, malnutrition, and the like persistent condition. These cases can often not be dealt with satisfactorily otherwise than in a hospital, as it is impossible to secure at home that intelligent and continuous attention which their illnesses require. Moreover, the nature of their illnesses is often obscure, and requires continued observation and study.

A full account of these studies of each case admitted is given by the Medical Staff every month, and will form a valuable part of the Hospital records.

The difficulties experienced and the methods by which they are encountered vary with each Medical Officer, but are open to all, and doubtless form an interesting subject of discussion to the Medical Staff.

The cases admitted are precisely those which baffled the Medical Officers of the Child Welfare Centres, and form the subject of long and inconclusive reports from the Health Visitors, unless the infant has intercurrent Diarrhœa and drops off.

They comprise cases of Congenital Syphilis and all those subjects of profound and undetermined disorders of the digestive organs which have given so much trouble in infant wards.

The infant is not kept for a very long period in the hospital owing to the pressure of waiting cases, only sufficiently long to place it on the upward grade if that can be effected, and to determine the best mode of dealing with its condition. It follows that the children, being returned to their home environment in the course of a few months at the outside, often fail to sustain the progress achieved in the hospital, and require to be kept under observation. So far as practicable, such observation has been maintained by the Health Visitors, and also by the Hospital itself.

It was in order primarily to provide for a special class of case of the Child Welfare Centres that these beds were secured, but, of course, they also serve the much larger field covered by the Health Visitors, and consequently there is no lack of children requiring admission to the hospital.

A different policy has been pursued at Monsall Hospital, at which, during 1917, also under the sanction of the Local Government Board, the Crèche Ward of 10 beds has been continuously used for wasting children, under the care of Dr. Fletcher. No limit has hitherto been placed on the stay of these children, and while their condition on admission has been much the same as that of the children admitted into the Babies' Hospital, the results are better at all events for the time being. But, of course, this is at the expense of the numbers treated. The nurses get interested in their small patients, and it is a kind of pride to turn a wasting baby into a thriving and happy creature. Such a result is not always possible, but often this result is attained. Whether this result will be kept up after the children are discharged remains to be seen.

There can be no question that the possession of beds in both these Institutions is of the greatest value to the work of the Health Visitors and of the Child Welfare Centres. Which of these two lines of action needs expansion most urgently will form the subject of further enquiry.

I have requested Miss Seed, who keeps the record of admissions into these beds, and whose Health Visitors keep in touch with the children after discharge, to prepare a brief statement of the work of the Institutions.

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## STATEMENT *re* THE MANCHESTER BABIES' HOSPITAL AND THE CRÈCHE WARD IN MONSALL HOSPITAL.

During the year 1917, 118 applications for admission to the Manchester Babies' Hospital were received.

14	Applications	were	sent	in	from	Mill Street Centre, Ancoats.
23	„	„	„	„	„	Rosamond Street Centre, C.-on-M.
26	„	„	„	„	„	Manipur Street Centre, Openshaw.
21	„	„	„	„	„	Ainsworth Street Centre, West Gorton.
17	„	„	„	„	„	Willert Street Centre, Collyhurst.
5	„	„	„	„	„	Higher Ardwick Centre, Ardwick.
7	„	„	„	„	„	Lower Moss Lane Centre, Hulme.
3	„	„	„	„	„	Cheetham Centre.
2	„	„	„	„	„	Other Sources.

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118 Total.

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Twenty of these applications were cancelled, and for various reasons the children were not admitted to hospital.

98 cases were admitted, and of these 63 were discharged and 35 died in hospital.

17 children were stated by the doctors at the Centres (as copied from the application forms) to be suffering from Marasmus, 39 from Malnutrition, 11 from Dyspepsia, 18 from Diarrhœa and Vomiting, 4 from Gastritis, 2 from Wasting, 3 from Debility, 2 from Rickets, 1 from Prematurity, and 1 from Congenital Syphilis. In the remainder no diagnosis was given.

The ages of the children admitted ranged from three weeks to twelve months, but the majority were admitted from three months to seven months old.

Four children remained in the hospital less than a week, and 4 others less than a month; 7 were in hospital for 1 month, 18 for 2 months, 15 for 3 months, 8 for 4 months, 5 for 5 months, and 1 each for 6, 7, 8, and 9 months.

Six of the discharged cases lived in unvisited areas of the City, and the cases were not followed up by the Health Visitors. About 20 of the 57 cases who were kept under observation were found to be quite satisfactory when last seen, and it is to be regretted that so few mothers attend the Centres regularly with these babies after their discharge from hospital. Three cases have died since leaving hospital.

## CRÈCHE WARD, MONSALL.

The opening of the Crèche Ward with its ten beds in Monsall, chiefly for unsatisfactory children between the ages of one and two years, has also proved of very great assistance in the Infant Welfare work ; but the small number of beds available and the long stay in hospital of each case puts a limit to its usefulness. There is generally a long waiting list for Monsall.

26 cases were admitted from the time of the opening of the Ward in December, 1916, until December 31st, 1917. Ten of the cases were recommended by the Health Visitors and admitted by permission of the Medical Officer of Health. The remaining 16 cases were sent in from the various Centres.

5	Cases	were	admitted	from	Manipur Street Centre, Openshaw ;
2	„	„	„	„	Mill Street Centre, Ancoats ;
3	„	„	„	„	Ainsworth Street Centre, West Gorton ;
2	„	„	„	„	Higher Ardwick Centre, Ardwick ;

and 1 case each from Rosamond Street Centre, Chorlton-upon-Medlock ; Lower Moss Lane Centre, Hulme ; Willert Street Centre, Collyhurst ; and Cheetham Hill Road Centre, Cheetham.

From the diagnosis on the application forms we find that :—

3	Children	were	suffering	from	Rickets.
11	„	„	„	„	Malnutrition.
2	„	„	„	„	Diarrhœa.
2	„	„	„	„	Debility.
4	„	„	„	„	Wasting .
1	Child	was	„	„	Vomiting.
1	„	„	„	„	T.B. Enteritis.
1	„	„	„	„	Abdominal Tuberculosis.

Nine children were admitted under one year of age, seven between the ages of one year and eighteen months, eight between the ages of eighteen months and two years, and two children over two years of age.

One child remained in hospital for two weeks only, eight were in hospital for two months, four for three months, one for five months, five for six months, and one for twelve months.

Four children died whilst in the hospital, and three are still undischarged.

Of the 19 cases admitted and discharged, four were cases from unvisited areas and have not been followed up by the Health Visitors. The remaining 15 cases were followed up and kept under observation, but only five were reported as satisfactory at the last visit paid by the Health Visitors.

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### **TUBERCULOSIS—PUBLIC HEALTH WORK.**

No difference has occurred in the methods of dealing with this part of the work. It has been found necessary to abandon the use of dough as the material with which persons disinfect their own houses. No satisfactory substitute has been found, and it cannot be regarded as a proper solution that a number of people use chlorinated lime. It may be regarded as certain that disinfection will not be so fully or carefully carried out. Moreover, the use of dough was very helpful in the work of public as well as of private disinfection.

I have requested Dr. Sutherland, meanwhile, to take over the Public Health work—a serious addition to his duties. But, with the Tuberculosis Office severed from the Public Health Department, it is not possible for me under present circumstances—and perhaps not at any time—to exercise proper supervision over the work. Certainly, with no Assistant Medical Officer, systematic supervision is impossible. It is a real disability that the whole of the work is not under one roof, and the growth of the Health Visitors' section is such that there is danger that this will be the next shedding off.

The strain entailed by the depletion of staff is telling very heavily on all concerned with the detailed administration of Public Health work generally, Tuberculosis, and Child Welfare, and every defect in individual work causes a much heavier addition to the work of others than in normal times.

Notwithstanding this, however, the administration of the Public Health Tuberculosis work, of the Insurance work, and of the Care Committee's work is at present being carried out successfully by Dr. Sutherland. During 1917 he had, of course, the advantage of Dr. Adam's assistance, and, even with his great capacity for work, without such assistance something would have to be dropped unless satisfactory assistance could be found.

Since no change has taken place in the methods pursued, the report will be restricted this year to the tables.

TABLE I.

PHTHISIS—NUMBER OF NEW CASES OF PULMONARY TUBERCULOSIS  
NOTIFIED DURING THE YEARS 1900 TO 1917.

Year	Poor-law Cases	Institutions	Private Practitioners	Total
1900* .....	578	455	540	1573
1901 .....	625	373	341	1339
1902 .....	667	305	303	1275
1903 .....	556	550	251	1357
1904 .....	512	440	250	1202
1905 .....	527	588	291	1406
1906 .....	565	510	304	1379
1907 .....	634	646	310	1590
1908 .....	659	498	346	1503
1909 .....	681	542	384	1607
1910 .....	543	760	356	1659
1911 .....	517	897	423	1837
1912 .....	488	947	969	2404
1913 .....	345	717	1350	2412
1914 .....	483	877	1304	2664
1915 .....	279	740	1194	2213
1916 .....	322	817	1410	2540
1917 .....	470	716	1061	2247
Total .....	9451	11378	11387	32216

\* This table does not include 425 cases notified in 1899.

It will be seen that there is a considerable drop in the number of cases notified in 1917 as compared with 1916, specially marked at ages 25-44. The fall is much greater amongst females than males. This may, perhaps, be taken to indicate improvement in conditions of work.

The actual figures are given in Table 2.

No tables have been prepared showing the incidence of the disease in districts.

The Public Health Work is summarised in the following Table and Statement:—

STATISTICS RELATING TO THE NOTIFICATION OF PHTHISIS.

	1917	1916	1915	1914	1913	1912	1911	1910	1901 to 1909	1899 Sep. 1 to Dec. 31 1900	Total
<i>Cases Visited and Registered—</i>											
Males .....	1431	1526	1448	1612	1543	1354	1090	958	8208	1017	1560
Females .....	922	1109	1110	1094	1052	993	717	571	4789	732	984
Totals ...	2353	2635	2558	2706	2595	2347	1807	1529	12997	1749	2537
<i>Houses Disinfected—</i>											
1. By Corporation—											
(a) With solution of chlorinated lime only .....	2934	635	869	994	822	884	754	665	5309	581	1080
(b) With lime solution only .....	0	0	0	0	0	0	0	0	17	109	12
(c) †By Esmarch's method and solution of chlorinated lime .....	0	1878	2415	3123	3044	2842	1983	1599	7764	0	1810
Totals ...	2934	2513	3284	4117	3866	3726	2737	2264	12820	690	2903
2. By Tenants—											
†Esmarch's method	0	1799	3580	4564	4050	3790	3342	3127	21311	1299	4044
Chlorinated lime.	3523	0	0	0	0	0	0	0	0	0	
Totals...	6457	4312	6864	8681	7916	7516	6079	5391	34131	1989	6947
<i>Specimens of Sputum Examined:</i>											
Positive .....	465	721	781	1052	1165	1061	851	616	2908	104	717
Negative .....	1471	1720	1576	2269	2637	1876	1403	1135	4971	154	1364
Totals ...	1936	2441	2357	3321	3802	2937	2254	1751	7879	258	2081
Cases reported as sent to Hospital .....											
	2400	2078	1719	2718	2421	1874	1957	1772	13654	991	2506
Notified from common lodging-houses.. .....											
	143	172	212	283	243	201	199	193	2086	187	325
Number of cases under observation .....											
	6898	6327	5690	5941	4848	4305	3484	3105	17360	about 600	

\* This number includes all forms of Tuberculosis. † Esmarch's method not used in 1917 owing to a Food Control Order.

TABLE 2.  
NOTIFICATIONS—1917.

Age Periods .. .. .	NOTIFICATIONS ON FORM A												Total Notifications on Form A	NOTIFICATIONS ON FORM B				Total Notifications on Form B	NOTIFICATIONS ON FORM C	
	Number of Primary Notifications													Number of Primary Notifications					Poor Law Institutions	Sanatoria
	0-	1-	5-	10-	15-	20-	25-	35-	45-	55-	65-	Total Primary Notifica- tions		Under 5	5-	10 to 15	Total Primary Notifica- tions			
Pulmonary Males .. .. .	6	38	75	88	93	97	236	290	235	136	63	1,357	1,698	1	2	2	5	8	211	777
„ . Females .. .. .	6	27	77	78	101	88	174	142	100	45	41	879	1,131	..	2	4	6	12	50	458
Non-Pulmonary Males .. ..	13	102	97	85	34	13	24	22	20	12	10	432	547	..	..	1	1	4	17	17
„ . Females.. ..	19	84	75	84	69	36	38	17	9	9	7	447	575	..	1	1	2	3	18	7
Totals.. .. .	44	251	324	335	297	234	472	471	364	202	121	3,115	3,951	1	5	8	14	27	296	1,259



4,059 special cases have been entered in the Business Book for investigation and cleansing after removal to hospital, change of residence, death, or under special circumstances.

503 tenants have allowed the removal of bedding, etc., for disinfection ; or have themselves burned it in a few instances.

40,000 cardboard boxes have been prepared in the office and supplied to patients for spitting purposes in the home.

226 spit bottles have been supplied for use outside the house.

9,902 visits have been made by the Enquiry Officers during the year.

29,345 letters were sent out, of which 299 were to owners with reference to the disinfection of houses, with subsequent correspondence in many instances.

The fate of patients treated in the Crossley Sanatorium and Baguley Sanatorium is set forth in the following tables. Baguley Sanatorium is an institution for advanced cases, and the results are such as might be anticipated.

If patients treated in the Crossley Sanatorium do not show a higher proportion of survivors, it is to be considered that cases have not been sent to this institution at a sufficiently early stage to obtain the best results.

**TABLE 3.**  
**CROSSLEY SANATORIUM.**  
*Males.*

Year	No. of new cases	No. of re-admissions	Died in the Sanatorium	Died elsewhere	Lost sight of	Known to be still living, Dec. 31st, 1917
1905 .....	16	1	..	11	4	1
1906 .....	18	2	1	14	3	..
1907 .....	29	2	1	21	5	2
1908 .....	36	3	1	23	7	5
1909 .....	27	4	2	15	4	6
1910 .....	27	5	..	14	7	6
1911 .....	38	2	..	21	6	11
1912 .....	53	3	1	25	12	15
1913 .....	151	3	..	58	29	64
1914 .....	184	8	1	53	48	82
1915 .....	140	10	3	26	27	78
1916 .....	118	8	1	12	20	85
1917 .....	113	12	..	3	9	101
<b>Total ....</b>	<b>950</b>	<b>63</b>	<b>*11</b>	<b>*296</b>	<b>*181</b>	<b>*456</b>

\* It will be found that the last four columns do not, for any institution, balance against the first, but, owing to the illness of Mr. Lock, it is not possible to arrive at the explanation and rectification of this.

TABLE 3—*continued.*CROSSLEY SANATORIUM—*continued.**Females.*

Year	No. of new cases	No. of re-admissions	Died in the Sanatorium	Died elsewhere	Lost sight of	Known to be still living, Dec. 31st, 1917
1905 .....	14	..	1	9	1	3
1906 .....	14	1	..	10	3	1
1907 .....	16	2	..	14	1	1
1908 .....	13	3	..	13	..	..
1909 .....	16	1	..	11	1	4
1910 .....	11	4	..	6	4	1
1911 .....	18	2	..	9	3	6
1912 .....	31	3	..	11	8	12
1913 .....	67	..	..	5	26	35
1914 .....	69	5	..	8	14	41
1915 .....	67	5	..	5	15	41
1916 .....	74	3	..	3	18	52
1917 .....	68	5	1	3	1	63
Total .....	478	34	2	107	95	260

TABLE 4.

## BAGULEY SANATORIUM.

*Males.*

1912 .....	49	..	11	22	8	7
1913 .....	329	17	63	147	42	77
1914 .....	246	38	51	118	20	56
1915 .....	276	46	65	100	11	93
1916 .....	403	73	109	94	31	169
1917 .....	401	76	55	23	14	309
Total .....	1704	250	354	504	126	711

*Females.*

1912 .....	20	..	2	9	3	6
1913 .....	167	7	31	56	28	34
1914 .....	98	5	14	30	14	38
1915 .....	87	5	20	21	12	32
1916 .....	262	16	53	85	24	100
1917 .....	277	24	39	22	14	202
Total .....	911	57	159	223	95	412

The number of cases of Tuberculosis in which the income of the individual or family showed varying amounts of deficit under an assumed standard of living, and the number in which assistance was given to the individual or the family, or both, is shown in the following tables :—

TABLE 5.  
TABLE SHOWING PARTICULARS OF DISTRESS IN CASES OF PHTHISIS NOTIFIED DURING THE YEAR 1917, CLASSIFIED ACCORDING TO THE REQUIREMENTS OF THE FAMILY IN EXCESS OF THE INCOME. FOOD CALCULATED ON THE ATWATER SCALE + 100 PER CENT. HOUSEHOLD SUNDRIES CALCULATED ON MR. ROWNTREE'S SCALE + 100 PER CENT. AT END OF YEAR. EARLY IN 1917 SCALE WAS INCREASED BY 25 PER CENT. AND 50 PER CENT.; THEN MAY, 50 PER CENT. BOTH; JUNE, 75 PER CENT. BOTH; AND FROM AUGUST ONWARDS 100 PER CENT. BOTH.

Conditions affecting Individual Cases	Shortage up to ..... in shillings.												Total
	- 5	- 10	- 11	- 12	- 13	- 14	- 15	- 16	- 17	- 18	- 19	- 20	- 25
Alive December 31st, 1917.. ..	112	73	9	6	5	3	8	3	3	4	4	2	14
Dead December 31st, 1917.. ..	25	23	5	..	5	2	..	..	1	1	2	2	4
Relief from Guardians .. ..	13	12	4	3	1	1	1	..	2	1	2	1	2
Assistance from £1,500 .. ..	40	30	5	2	3	1	..	1	..	1	1	..	3
Assistance from £800 .. ..	30	20	4	..	1	2	..	..	2	..	2	1	1

TABLE 6.  
TUBERCULOSIS OTHER THAN PULMONARY. FROM CASES VISITED AND REGISTERED DURING 1917.  
SHOWING SHORTAGE IN INCOME.

Conditions affecting Individual Cases	Under 5/-	5/-	10/-	11/-	12/-	13/-	14/-	15/-	16/-	17/-	18/-	19/-	20/-	Total
Alive December 31st, 1917.. ..	37	20	1	3	1	1	..	..	3	2	1	..	3	72
Dead December 31st, 1917.. ..	10	5	1	1	1	1	..	1	..	..	..	1	4	25
Relief from Guardians .. ..	1	1	..	1	2	1	..	1	1	..	..	1	1	10
Assistance from £1,500 .. ..	13	10	..	2	..	..	..	1	2	..	..	..	1	29
Assistance from £800 .. ..	3	1	..	..	..	..	..	..	..	..	..	..	..	4

The total amounts expended during the year from the grants mentioned, viz., £1,500 contributed by the Corporation, £800 by the Insurance Committee, were for the year 1917.

The supervision of the Care Committee work is in the hands of Dr. Sutherland, as is now that appertaining to the £1,500 fund. Mr. Lock has, as usual, been unsparing of personal effort in the conduct of his work.

## THE SENIOR TUBERCULOSIS OFFICER'S REPORT.

BY DR. D. P. SUTHERLAND.

In giving a review of the past year's work, it is again necessary to refer to the crippling of clinical activity due to the shortage of medical staff. No extension of the work is possible, and in many directions investigations which have been commenced have had to be temporarily suspended. At the same time the day-by-day demands of the Manchester scheme have grown. Additional calls are being made on the work of the staff by the increased activities of the Army authorities, Pensions Ministry, and Ministry of National Service. An effort is now being made by the Government to secure full and adequate treatment for all tuberculous soldiers and sailors, and provision is made for immediate care in Hospital or Sanatorium upon their discharge from the services. At the same time, increasing precautions are advised by the National Service Ministry to prevent the access of tuberculous cases to the Forces. Complete success in this has not yet been achieved. Many cases have been taken and tested by the Army in the past, and it is undoubtedly wise to recognise the limitations of active service conditions as a regime for the tuberculous. Further steps for the accommodation of discharged men have been taken in the shape of colonisation, where training in both agricultural and other work may be carried out. It still appears, however, to be regarded as only a necessary preliminary to a return to the rough and tumble of ordinary industry. It will be found useless as a means of permanently affecting the Tuberculosis problem until it is recognised that many cases are quite unfit for this return. Although some patients may pursue their trades, irregularly perhaps, but with benefit, in a colony, they are quite unsuited, in their own interests and for the sake of others, to follow their employment at the risk of the general population in open industry. The process of tuberculisation may or may not be a desirable thing, but, if unregulated, it is quite possible for it to proceed in advance of resistance, and its undesirability then is in no doubt. As stated in former reports, the problem of Tuberculosis is largely a problem of the advanced case.

Attention may once more be directed to the unsatisfactory position in regard to the provision of treatment for children referred to in former reports, and one of the first extensions of the scheme should be in this direction. This is now the main lack in the Manchester system, which otherwise is a very complete and comprehensive one for dealing with Tuberculosis.

It may be of interest to review the general situation as it was before 1911 (the date of the National Insurance Act) and at the present time. It should be kept clearly in mind that the problems we are concerned with are the

restoration to health and working capacity of patients, the limitation of infectivity, and the protection of the general population. Prior to 1911 efforts were being made to deal in a direct way, by means of the Public Health Administration, with Tuberculosis in this area. A certain amount of provision for institutional care existed in the shape of 20 subsidised beds at Delamere for early cases and the 67 beds for children and advanced cases at Clayton. A close supervision was kept upon notified cases by means of home visiting by Sanitary Inspectors and Health Visitors. Periodical cleansings and disinfection were carried out, and workplaces where heavy incidence was recorded were the subject of special attention. The Hardman Street Dispensary of the Board of the Consumption Hospital had been in existence many years and was doing good work. At this period, however, there was incomplete knowledge of the actual number of cases, and until compulsory notification came in 1912 for Pulmonary Tuberculosis, and in 1913 for all forms of Tuberculosis, movement was necessarily restricted. In April, 1912, the Departmental Committee issued their preliminary report, and made suggestions as to how schemes dealing with Tuberculosis might best be brought into existence so that full advantage could be taken of the Sanatorium Benefit clauses of the Insurance Act then about to become operative. Their recommendations were that local centres should be established for diagnosis and treatment, and the report being adopted by Government the Treasury made itself responsible for half the annual cost of all such provision if approved by the Local Government Board. A capital sum of a little over a million pounds for England and Wales had already been provided by the Treasury to meet the cost of the erection of Sanatoria. The prominent point in the Departmental Committee's Report was that Dispensaries should form the first unit of the scheme, where diagnosis, observation, and determination of treatment should be made. The Dispensary would also act as a centre of instruction and information and as a general clearing house of cases. Institutional provision formed the second unit, and comprised Sanatoria and Hospitals. To these institutions cases requiring isolation and specific instruction as to that regulated life which is the essence of recovery were to be sent. Instructions for the home treatment of patients were dealt with by the Local Government Board Orders for Domiciliary treatment in 1912 and 1916. By means of this Order the clinical information obtained by the general practitioner in charge of the case was to be made available for the Tuberculosis Officer. The way was now clear for the Local Authority to keep in continuous touch with every notified case in the area, provided that all stages were complete in themselves. The following is the method adopted to secure this continuity of supervision in Manchester.

Upon notification every case is specially visited by trained visitors, and enquiries are made into the history of illness. The source of the disease is sought, and an attempt made to see every member of the family to find contacts.

Sanitary defects are looked for, advice is given to the patient and the family in respect of the measures of precaution necessary with sputum, food, and clothing. Isolation and ventilation are noted, and improvements that are practicable are suggested. Printed advice is left for the patient, and, if insured, a form upon which to apply for Sanatorium Benefit. (The granting of Sanatorium Benefit, it is to be noted, is at the discretion of the Insurance Committee, and is not automatic ; also application has to be made by the insured person, and cannot be made on his or her behalf.) The family income is ascertained, and if it is too low a grant may be made from Care Committee funds. If poverty exists, reference to the Guardians is urged. Arrangements are made for disinfection and periodical visits, these varying with the infectivity of the case and the number and condition of the family. When the application for Sanatorium Benefit is received by the Tuberculosis Officer, arrangements for the examination of the patients are made. A medical report is first, however, obtained from the general practitioner, and upon this he is invited to express his opinion as to whether he desires to be present at the consultation. Cases are seen at the Dispensary or at their homes, as circumstances demand, and the consultant reports the result of examination to the Tuberculosis Officer, together with recommendation for treatment. At the same time he transmits a summary of his opinion to the practitioner in charge of the case. The Insurance Committee are informed of the recommendation of the Tuberculosis Officer, and treatment necessary is arranged for. Where immediate institutional accommodation is not available, dispensary or home treatment is sanctioned pending a vacancy. The periodical reports of the practitioners, given under the Domiciliary Order, together with reports from the consultants, superintendents of institutions, and Tuberculosis nurses, enable the Tuberculosis Officer to maintain a continuous record of the patient's condition. The progress of the cases can be seen under varying circumstances of life, work, and treatment, and a very valuable series of records is now in course of construction. Their analysis will be an important part of post-war work when an adequate staff exists. It will be seen from this that the success of the scheme depends upon the completeness with which the Tuberculosis Officer can keep in continuous touch with the constantly-moving Tuberculous patients in an area, and information as to the condition of individual cases is of advantage from whatever direction it comes. This properly constitutes what is generally referred to as After-care, a term whose meaning has been somewhat obscured by confusion with the following up of cases which have been away at a Sanatorium. The work of the Care Committee has been part of the organised system of anti-Tuberculosis administration carried on in Manchester over many years, and it is not a new growth dependent upon the Insurance Act. It comprises all those efforts which are made to secure the maintenance of health amongst tuberculous persons. It involves provision of additional food where there is

a shortage, advice in respect of work, and the protection generally of the patient, his family, and his associates, so far as this is possible, from the results of the disease. For the purpose of giving assistance in food and to provide additional isolation by provision of beds and bedding for patients and families, the Care Committee of the Corporation is granted by the Council a sum of £1,500 per annum. In addition to this, a sum of £800 is set aside from the Insurance Committee's contributions to provide food and clothing for insured patients only.

The question of finding work for tuberculous cases is a very difficult and complicated one in a city like Manchester. A number of cases in whom the disease is arrested have been established in work under the Corporation, and all cases receive instruction and advice as to the most suitable form of employment for them. But I can see no way of solving the difficulty which exists in such a grave form in an industrial area like this until a scheme for widespread colonisation is brought into existence. In such a colony, provision would have to be made for the various activities of the inmates, and training in market gardening and light agricultural pursuits alone would be totally inadequate here.

Reviewing the present position, we find the death-rate in the last two years has been falling. In 1914 it ascended sharply, and the curve continued to rise, but less steeply, in 1915. The War has been held responsible for much, but it would be very unwise to conclude that it has markedly affected this death-rate. The Insurance Act, by directing attention to Tuberculosis and by the increased activity brought into being, caused a temporary prolongation of some lives. This has undoubtedly been a factor in the erratic curve of the past few years, and some of the apparent rise is not real. But resistance has in other instances been weakened. Old cases, under mental and bodily strain, have lighted up, and the Army has contributed its quota. The experiences through which we are passing will show their results not immediately, but in some years time; and whatever the true facts of the Tuberculosis death-rate are, there is no doubt as to the increasing incidence of the active cases. As the most expensive and crippling infection of the present day, it will require all the energy and enlightened activities hoped for from Ministries of Reconstruction and Health to resist further inroads into the population. Industrial

conditions, smoke problems, food supplies, and town planning schemes will each and all have to receive consideration in so far as they all touch at various vital points the problem of future efficiency and welfare.

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The following pages give a summary of the work.

Insured cases applying for treatment :—

1914 .. { 730 Males.  
          { 321 Females.

1915 .. { 572 Males.  
          { 315 Females.

1916 .. { 747 Males.  
          { 316 Females.

1917 .. { 728 Males.  
          { 359 Females.

Cases of discharged soldiers referred by the Insurance Commissioners for treatment—177.

Number of insured patients who have so far recovered that no active signs of disease were found—228.

Recoveries amongst uninsured cases—368.

Contacts examined at their homes and at the Dispensary—768 ; of these, definite signs of Tuberculosis were found in 85 and in 74 further observation was required, as they were suspicious cases of Tuberculosis.

Grants of food were made in 1,527 instances to 522 families, and clothing was supplied to 155 patients in Hospital and Sanatorium to enable them to derive full benefit from treatment.

Bedding, bedsteads, and cots, together with nursing appliances, have also been loaned in necessitous cases to secure isolation and adequate nursing at home.

Special visits, to the number of 3,757, have been paid by the Tuberculosis nurses and 1,143 visits by the clinical nurse, who attends to domiciliary patients requiring surgical dressings and nursing care.

The appended tables give a detailed analysis of the clinical work.

TABLE A.  
SUMMARY OF CASES EXAMINED BY THE SENIOR TUBERCULOSIS OFFICER AND ASSISTANT TUBERCULOSIS OFFICER IN 1917.

	Reason for Examination				Occupational Condition at Examination		Diagnosis													Recommendations made								
	Treatment	Claimed Recovery	Diagnosis	Contacts	Working (or at School)	Not Working	Pulmonary Tuberculosis			Tuberculosis of						No Disease						Delamere and Abergele	Baguley	Hardman Street Dispensary	Union	Other Hospitals	Private Practitioners	Observation
							Stage I.	Stage II.	Stage III.	Larynx	Bones and Joints	Glands	Abdomen	Other Organs	Doubtful Tuberculosis	Bronchitis	Heart Lesions	Other Diseases	No evidence of Tuberculosis	Recovery	No Disease							
Male ..	87	10	102	25	116	108	29	26	46	9	19	18	4	8	28	60	11	27	15	6	20	26	57	2	1	17	80	15
Females	102	20	82	82	188	98	18	22	45	0	21	33	6	5	27	51	7	37	66	13	62	24	52	15	1	35	68	16
Children	49	67	35	258	274	135	18	25	24	0	11	16	6	6	57	130	18	60	129	36	111	5	11	95	15	48	63	25
Totals ..	238	97	219	365	578	341	65	73	115	9	51	67	16	19	112	241	36	124	210	55	193	55	120	112	17	100	211	56
919				919		919													919									

\* This total is greater than that in first four columns for the reason that it represents diseases occurring amongst 919 patients.

\* 1138

TABLE B.—RESULT OF EXAMINATION OF CASES SENT FOR DIAGNOSIS.

	Pulmonary Tuberculosis			Tuberculosis of					Doubtful Tuber- culosis	No evidence of Tuber- culosis	Bron- chitis	Heart Lesions	Other Diseases
	Stage I.	Stage II.	Stage III.	Larynx	Bones and Joints	Glands	Abdomen	Other Organs					
Males ..	19	12	18	3	0	5	1	4	14	2	28	7	16
Females ..	14	11	13	0	3	5	0	1	11	7	24	3	15
Children ..	3	5	7	0	2	6	1	4	2	2	7	2	2

TABLE C.—RESULT OF EXAMINATION OF CONTACTS.

Males ..	2	2	0	0	1	0	0	0	1	5	17	2	2
Females ..	3	2	1	0	0	1	0	1	2	44	18	3	11
Children ..	13	9	4	0	1	4	2	1	50	90	89	12	34

TABLE D.—DISPENSARY RETURN.

Number of persons, including Contacts, who were examined for the first time during the period from January 1st to December 31st 1917, at or in connection with the Dispensary or Visiting Station, and were				Number of persons diagnosed to be suffering from Tuberculosis who were treated or supervised at or in connection with the Dispensary or Visiting Station during the period from January 1st to December 31st, 1917		Number of persons who were under treatment, supervision, or observation at or in connection with the Dispensary or Visiting Station on December 31st, 1917		
Diagnosed as suffering from Tuberculosis	Diagnosed as <i>not</i> suffering from Tuberculosis	Undiagnosed and remaining under observation	Total number examined		Insured	Uninsured	Insured	Uninsured
			Insured	Uninsured				
1180	849	204	769	1464	368	606	104	320

TABLE E.—INSURED CASES TREATED IN 1917.

Residential . . . . .	1,299
Dispensary . . . . .	368
Domiciliary . . . . .	2,209
Total . . . . .	3,876

## ANALYSIS OF CASES TREATED.

TABLE I.—*Residential (Insured).*

	Total cases treated	Discharged from Institutions		Died	* Residential treatment discontinued in other cases	Still under Residential treatment on 1st January, 1918
		Improved	Without Improvement			
	(1)	(2)	(3)	(4)	(5)	(6)
Men . . . . .	878	404	135	89	11	239
Women . . . . .	421	213	70	33	4	101
Totals . . . . .	1299	617	205	122	15	340

\* The figures in column (5) relate to cases as to the progress of which no definite report is available for various reasons—*e.g.*, the withdrawal from the Institution of the insured persons themselves before the expiration of the period for which they were nominated for the treatment.

TABLE II.—*Residential (Uninsured).*

	Total cases treated	Discharged from Institutions		Died	* Residential treatment discontinued in other cases	Still under Residential treatment on 1st January, 1918
		Improved	Without Improvement			
	(1)	(2)	(3)	(4)	(5)	(6)
Men . . . . .	93	39	11	17	2	24
Women . . . . .	141	61	21	30	0	29
Children (under 16)	39	15	3	2	0	19
Totals . . . . .	273	115	35	49	2	72

\* The figures in column (5) relate to cases of which no definite report is available for various reasons—*e.g.*, the withdrawal from the Institution of the persons themselves before the expiration of the period for which they were nominated for the treatment.

TABLE III.—*Dispensary (Insured).*

	Total cases treated	Discharged from Institutions		Died	* Residential treatment discontinued in other cases	Still under Dispensary treatment on 1st January, 1918
		Improved	Without Improvement			
	(1)	(2)	(3)	(4)	(5)	(6)
Men .. ..	240	96	74	3	..	67
Women .. ..	128	57	31	3	..	37
Totals.. ..	368	153	105	6	..	104 + 100 outstanding cases

\* The figures in column (5) relate to cases as to the progress of which no definite report is available for various reasons—*e.g.*, the withdrawal from the Institution of the insured persons themselves before the expiration of the period for which they were nominated for the treatment.

In addition to the above figures—

354 Males

197 Females—completed two weeks' Dispensary observation and treatment on leaving Institutions. Their condition was stationary during this period.

Total 551

TABLE IV.—*Dispensary (Uninsured).*

	Total cases treated	Discharged from Institutions		Died	Still under Dispensary treatment on 1st January, 1918
		Improved	Without Improvement		
	(1)	(2)	(3)	(4)	(5)
Men ... ..	97	18	32	...	47
Women ... ..	215	45	56	...	114
Children (under 16)...	294	98	37	...	159
Totals ... ..	606	161	125	...	320

D. P. SUTHERLAND.

## MILK AND TUBERCULOSIS.

In submitting the report of the work done in connection with Tuberculosis and Milk for 1917, I have to say that we have only had the services of a Veterinary Surgeon on one day each week. Mr. J. F. Dixon, M.R.C.V.S., of the City Abattoir, has been loaned by the Markets Committee to the Hospitals Sub-Committee—with serious interruptions, inevitably, no doubt—for the purpose of following up positive station samples of Tuberculous milk and for the examination of the cows within the City. The latter, however, has not been carried out, except fragmentarily.

Mr. J. B. Wolstenholme, F.R.C.V.S., has rendered service on various occasions when Mr. J. F. Dixon was not at liberty. Under these circumstances, it will be readily understood that the work accomplished is less than in the year 1913, when Mr. J. W. Brittlebank, M.R.C.V.S., Veterinary Surgeon to the Sanitary Committee, was able to devote a large part of his time to these duties. At the outbreak of the war he joined H.M. Forces, and now holds the rank of Lieutenant-Colonel. The further distinction has been recently conferred upon him of C.M.G.

Much valuable work has been accomplished, however, during the limited time at their disposal by Mr. J. F. Dixon, M.R.C.V.S., and Mr. J. B. Wolstenholme, F.R.C.V.S.

#### MANCHESTER FARMS.

The number of farms within the City which are occupied as Dairy Farms is 94, whilst the number of cows kept is 1,425. The following summary shows the disposition of cows in the various districts of the City :—

Sanitary District Number	Sanitary District	Cowkeepers	Cows
5	Cheetham .. .. .	3	61
19	Crumpsall .. .. .	7	119
20	Blackley .. .. .	19	283
21	Moston .. .. .	11	217
23	Newton Heath .. .. .	5	62
32	Gorton .. .. .	3	18
16	Hulme .. .. .	1	8
27	West Gorton and Gorton .. .. .	2	37
28	Rusholme and Fallowfield .. .. .	6	119
30	Levenshulme .. .. .	5	67
33	Didsbury .. .. .	18	289
34	Withington and Chorlton-cum-Hardy	14	145
		94	1425

61 City Farms were inspected during the year by Mr. J. F. Dixon, M.R.C.V.S., and Inspector Higginbotham. The herds on these farms numbered 968. 35 individual samples of milk were obtained, 4 of which gave *positive* results. In one instance the whole of the carcass was destroyed as unfit for food. In the cases of the other three cows, some portion of the animals was destroyed and the remainder passed as fit for human consumption.

The general condition of the cows within the City has been well maintained, considering the difficulties which have had to be overcome. Many farmers have lost their experienced cowmen owing to the war and to the attractive wages to be obtained in other industries, in which the hours of labour are considerably less. This constant change of farm hands and the substitution of inexperienced for experienced cowmen has led to a reduction in the standard of cleanliness of the cows and cowsheds. Shoddy was found to be in use as bedding on a number of farms. The farmers state that, owing to the scarcity of sawdust, and straw being used as a feeding stuff, they had nothing to fall back upon except shoddy on which to bed their cows.\* Very real difficulties with regard to feeding stuffs have had to be overcome. Many City farmers cannot grow sufficient hay to fodder their cows, whilst the growing of roots on the north side of the City is not practised. In several cases the feeding of cows has been of a hand-to-mouth character, so that much of the cowkeeper's time has been used up in getting feeding stuffs.

#### DAIRY UTENSILS.

The conditions now prevailing are again alleged to be responsible, in a large measure, for several cases of dirty or unsatisfactory dairy utensils that have come to my notice. Owing to the lack of labour, it is more than ever necessary that some simple steam installation should form part of all dairy equipment. A number of the large dairymen and one farmer have high-pressure steam plants. The saving in labour and fuel costs by using steam for all dairy purposes are well illustrated by one farmer, who is also a dairyman, on a large scale. Some two years ago, following an outbreak of Diphtheria caused by infected milk from this farm, a high-pressure steam plant was instituted at the instance of the Medical Officer of Health. The farmer now expresses much satisfaction at the result. All dairy utensils and delivery bottles are sterilised after use, with the result that they have not had any sour milk since the steam installation was put in. The saving on this head alone has been sufficient to cover the outlay. The saving in fuel has been no less marked. Hot water was previously obtained by means of sett boilers heated by coal. Steam is now raised by coke breeze, in sufficient quantities for all dairy purposes and the boiling of pig food, at one-fourth the cost of coal in the old method, whilst the saving in labour is so great that were it not for the steam they would hardly be able to carry on their business at the present time.

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\* This is, of course, quite inadmissible.

### THE MANCHESTER MILK CLAUSES.

The Manchester Milk Clauses have been operated as in former years, so far as the obtaining of milk samples has been concerned and the following up of positive station samples. A change in dealing with the cows found to have positive tuberculous lesions in the udder has been brought about by the operation of the Cattle Sales Order of December 17th, 1917. Our former custom in dealing with an animal from which a positive tuberculous sample of milk had been obtained was for the farmer to send the cow to a Public Abattoir wherever possible, so that the carcase could be inspected and its condition ascertained after slaughter, and the necessary steps taken with regard to the meat if the whole or any part of it was unfit for human consumption. Every effort was made by us, in conjunction with the Local Authorities of the districts in which the animal was, to prevent a carcase of meat from a positive tuberculous animal being consumed without first having been properly inspected. Under the Cattle Sales Order referred to above, all cattle, whatever their condition, if sold for beef, must first be graded at the auction to which they are sent for sale. It may happen, if the farmer is disposed not to inform the Grading Officer as to the known condition of his cow, that it may be graded in a higher class than it would be if its condition were made known at the time of grading and sale. The loss accruing from such disposal of a known tuberculous cow which may not exhibit any patent external signs of Tuberculosis falls on the butcher or association of butchers acting under Food Control Committees. Further, it is almost impossible for a cow to be traced through an auction to its place of destination before the animal has been slaughtered and, in all probability, consumed, so that we are not in a position, either from Manchester or through the Local Authorities, to have the cows inspected by a veterinary surgeon at slaughter.

In spite of this, our efforts have not been relaxed in dealing with tuberculous animals. The Medical Officer of Health of the County and the Medical Officer of Health of the District concerned are informed by letter in every case, so that the necessary steps may be taken to keep the cow under observation. Letters are also sent, in each case, to the farmer as in former years. But these letters and the forms used are too long to reproduce here.

In a number of recent cases the farmers have informed the Grading Officer of the condition of the animal beforehand, so that the cow has been graded according to its condition. Steps have then been taken to have the cow slaughtered locally under the supervision of the authorities. The farmer, under these circumstances, only receives the maximum value of such portions of the carcase as are passed as fit for human consumption.

### TUBERCULOUS MILK.

During the year 330 samples of milk have been collected by the Food and Drugs Inspectors in connection with Tuberculosis. Of this number, 311 were collected at the railway stations, and the remaining 22 from carts coming in

by road. In addition, 35 individual samples of milk have been obtained by the Veterinary Surgeon from cows at various farms within the City. The number of farmers represented in the total is 365.

Of these 365 farmers, 35 reside in the City, and 4 (11.4 per cent.) ; 192 reside in Cheshire, and 26 (13.54 per cent.) ; 43 live in Derbyshire, and 4 (9.3 per cent.) ; 23 live in Staffordshire, and 1 (4.3 per cent.) ; 34 live in Lancashire, and 4 (11.7 per cent.) sent tuberculous milk ; 4 live in Yorkshire, Westmoreland, and Cumberland, and none of them sent tuberculous milk.

TABLE I.

YEAR	Number of farmers' milk tested during the year	Total number found to cause Tuberculosis in the experimental animal	Percentage of farmers sending Tuberculous milk	Percentage of farmers from EACH COUNTY whose milk was found to cause Tuberculosis						
				Cheshire	Derbyshire	Staffordshire	Shropshire	Lancashire	Yorkshire	Manchester
1901	272	27	9.90	10.46	9.23	8.00	10.00	...	...	...
1902	345	36	10.40	12.72	8.65	4.01	...	8.31	...	...
1903	329	45	13.60	14.76	9.58	15.15	40.00	...	...	...
1904	318	29	9.10	11.17	6.02	...	...	7.14	25.00	...
1905	565	47	8.30	10.26	6.00	6.38	...	2.98	12.50	...
1906	542	42	7.70	8.60	6.50	9.30	12.50	4.00	...	...
1907	562	38	6.76	7.71	4.48	6.94	12.50	3.70	...	...
1908	289	27	9.34	11.56	6.25	7.70	...	2.94	12.50	...
1909	535	31	5.79	4.80	7.47	8.57	11.11	3.33	...	...
1910	468	30	6.41	6.20	8.69	5.55	...	...	...	...
1911	494	51	10.32	11.11	2.50	12.12	10.00	12.20	50.00	...
1912	484	54	11.15	13.94	4.00	10.20	33.33	6.00	10.00	...
1913	486	60	12.51	13.99	11.58	9.26	33.33	5.88	20.00	...
1914	352	34	9.66	12.39	8.19	...	...	2.77	...	...
1915	69	9	13.04	16.21	...	...	...	13.63	...	...
1916	321	38	11.83	11.59	8.80	13.04	...	6.97	...	...
1917	365	37	10.13	13.54	9.3	4.3	...	11.7	...	11.4
Total..	6790	638	9.38	—	—	—	—	—	—	—

The usual table showing the percentage of farmers found sending tuberculous milk from 1901 onwards is inserted, being completed to the end of the year 1917.

The following table of samples submitted in connection with the Manchester Milk Clauses summarises the work of the year :—

TABLE II. 1917.

Number of specimens of mixed milk taken at the station	311		
Number of specimens of mixed milk elsewhere (for administrative purposes)	22		
Number of each found to contain tuberculous infection	Station 30	Elsewhere 3	In addition, 29 control samples were taken at the stations and elsewhere, 12 of which were proved capable of causing Tuberculosis.
Number of farms visited in consequence	38 Of these, 5 belonged to the year 1916.		
Number of specimens taken from individual cows as the result of following up station and other samples	125		
Number of milks from individual cows proved to be tuberculous out of those given in the preceding column	26		
Number of udders proved to contain tuberculous lesions	26		
Number of milks taken from individual cows as the result of <i>notification</i> or <i>otherwise</i> than owing to the presence of tubercle bacilli in mixed milk	35 This relates to City Farms.		
Number of udders in last column shown to be tuberculous by bacteriological examination	4 This relates to City Farms.		
Total number of specimens submitted for examination	522 333 mixed samples—primary. 29 " " —controls. 160 individual cows.		

From particulars supplied by farmers, 258 of whom replied to our queries, we find that on these farms there were 5,221 cows, or an average of 20·23 cows per farm.

Reference to the above tables will show that the percentage of farmers whose milk was examined, and who were found to be sending tuberculous milk, was 10·13 per cent. It will be seen that since 1915 there is a decline. This is all the more satisfactory when the difficulties as to food for cattle are taken into consideration. The country farmer, no less than the City farmer, was greatly hampered in 1917 by the great shortage of feeding stuffs for cattle. They had to rely very largely on their own resources for whatever corn was fed to the cattle. Many farmers have experienced a shortage of hay. Straw had to be fed to cattle in considerable quantities.

Visits were paid to 38 country farms from which tuberculous milk was being sent into the City. The herds on these farms numbered 1,820. 10 farms were visited twice owing to the control samples proving tuberculous, whilst one farm was visited four times before the animal concerned was discovered.\* 26 cows were proved to have tuberculous lesions in their udders; 25 of these were slaughtered, and one remains to be slaughtered.

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## INSPECTION OF MILKSHOPS.

The daily milk supply of the people of Manchester is obtained to a large extent from small retail shops, which are often overstocked with other goods, such as groceries, hardware, sweets, tobacco, and so forth. The work of inspection was carried out by Inspectors Greenup and Sayle.

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\* The farm, which was visited on four occasions before the animal was discovered, had a herd of 12 cows. On the first visit three samples of milk were obtained, all of which gave negative results. It should be noted here that all the cows were first milked down to the strippings, only the strippings being drawn for the samples. A control sample of mixed milk proved positive. A second visit was paid in consequence, and three samples of milk were obtained from three other cows. These, likewise, proved negative. These samples were obtained as described above. A second control sample proved positive. The farm was visited a third time, when a mixed sample from every two cows was obtained—one of these gave a positive result. One of the two cows whose milk formed this positive mixed sample was sampled on the first visit, and gave a negative result. In this third instance be it noted the animals were not milked prior to the samples being obtained, but the milk sampled and tested was the first milk drawn from the udders. A mixed sample from two of these cows was found to be positive. A fourth visit was paid, and two individual samples of milk were obtained from the two cows the mixed sample from which had proved to contain tubercle bacilli. The cow from which a previous sample of milk strippings had been obtained with negative results gave a positive result with the first milk drawn from the udder. It can only be concluded from this that the tuberculous lesion discharged itself in the first milk drawn from the udder, whilst the strippings were free from tuberculous infection.

The work carried out is summarised thus :—

*Milk—1917.*

Number on Register	.. .. .	2,642
Number of Inspections	.. .. .	5,722
Number Unregistered	.. .. .	128
Number found without Indicator over door	.. ..	143
Dirty Premises	.. .. .	217
Premises in disrepair	.. .. .	34
Number of Letters <i>re</i> Greengroceries sent	.. .. .	1
Number of Shops with Vessels uncovered	.. .. .	69
Number of Applications for Registration	.. .. .	303
Cautionary Letters	.. .. .	19
Number of Prosecutions	.. .. .	32

*Ice-Cream—1917.*

Number on Register	.. .. .	488
Number of Inspections	.. .. .	1,668
Dirty Premises	.. .. .	50
Dirty Clothing	.. .. .	4
Vessels uncovered	.. .. .	28
Premises in disrepair	.. .. .	30
Number of Prosecutions..	.. .. .	1
Defective Ashbins	.. .. .	2

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## SUMMARY OF WORK DONE FOR THE MEDICAL OFFICER OF HEALTH.

BY INSPECTOR HIGGINBOTHAM.

Public Health Office,  
Civic Buildings, Manchester.

To the Medical Officer of Health.

ANNUAL RETURN OF WORK DONE BY INSPECTOR HIGGINBOTHAM FOR 1917.

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*Work in connection with Food supplied by Contractors to H.M. Forces.*

Lists of such contractors are received from Dr. Alex. MacFadden, C.B., Local Government Board, and the firms are thereupon visited, specifications being issued from the Sanitary Department for alterations when required.

No one engaged in this work can doubt the value of these inspections if not their necessity.

Inspections and Reinspections of Food Contractors to H.M. Forces..	713
Total number of Food Contractors in City .. .. .	182
„ „ „ Foods supplied .. .. .	38
New Contractors during the year .. .. .	2
Work completed on Specifications issued in 1916 .. .. .	9
Unsound Food. Two cases have been referred to the Markets Department to be dealt with by them (consignment about 10 cwts.) ..	2
Interviews with Medical Officer of Health <i>re</i> Food supplied to H.M. Forces .. .. .	33

*Farm Inspections for Tuberculous Milk.*

City Farms inspected (Manchester Milk Clauses).. .. .	61
Interviews with Medical Officer of Health .. .. .	35
„ „ Veterinary Surgeons .. .. .	17
Visits to Joddrell Street Offices .. .. .	17
„ Public Health Laboratory .. .. .	2
Samples of Water obtained .. .. .	2
Specifications issued for work required .. .. .	9
Country Farms inspected .. .. .	38
Sketch Plans and Reports in triplicate .. .. .	38
Interviews with Medical Officer of Health <i>re</i> Reports and Correspondence .. .. .	74
Interviews with Veterinary Surgeons .. .. .	38
Visits to Joddrell Street Offices .. .. .	38
„ Public Health Laboratory .. .. .	4

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Miscellaneous Enquiries and Reports .. .. .	93
Interviews with Medical Officer of Health <i>re</i> same .. .. .	39

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Inspections of Schools for Mothers, Day Nurseries, and Babies' Hospital .. .. .	14
Interviews with Medical Officer of Health <i>re</i> same .. .. .	7
Milk samples obtained .. .. .	4

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War Diet Enquiries .. .. .	67
Scurvy Outbreak at Crumpsall, cases .. .. .	26
Ropiness in Bread, enquiries .. .. .	7
Interviews with Medical Officer of Health <i>re</i> above .. .. .	10

*Stables and Stable Manure.*

Inspections of Stables *re* Fly Nuisance . . . . . 338

Interviews with Medical Officer of Health *re* same . . . . . 17

For eight weeks during August, September, and October, Inspectors Hughes, Collier, Heslop, and Dryland assisted in the campaign for the destruction of flies. 1,427 stables were visited ; 81 notices were served and complied with ; 1,346 occupiers removed the manure, cleansed and disinfected the middensteads voluntarily. A total number of 2,037 visits were paid.

J. HIGGINBOTHAM.

Annual Report of the Medical Officer of Health for the year 1917, for the County Borough of Manchester, on the administration of the Factory and Workshop Act, 1901, in connection with

FACTORIES, WORKSHOPS, WORKPLACES, AND HOMEWORK.

I.—INSPECTION OF FACTORIES, WORKSHOPS, AND WORKPLACES.

*Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.*

Premises	Number of		
	Inspections	Written Notices	Prosecutions
Factories (including Factory Laundries)...	13747	135	...
Workshops (including Workshop Laundries)...			
Workplaces (other than Outworkers' premises included in Part 3 of this Report) ...			
Total ...	13747	135	...

2.—DEFECTS FOUND IN FACTORIES, WORKSHOPS, AND WORKPLACES.

Particulars	Number of Defects			No. of Prosecutions
	Found	Remedied	Referred to H.M. Inspector	
<i>Nuisances under the Public Health Acts :—*</i>				
Want of cleanliness ... ..	754	754	...	...
Want of ventilation ... ..	6	6	...	...
Overcrowding ... ..	...	...	...	...
Want of drainage of floors ... ..	...	...	...	...
Other nuisances ... ..	257	252	I	...
Sanitary accommodation—				
Insufficient ... ..	26	10	...	...
Unsuitable or defective... ..	269	253	...	...
Not separate for sexes ... ..	5	I	...	...
<i>Offences under the Factory and Workshop Act :—</i>				
Illegal occupation of underground bakehouse (S. 101) ... ..	...	...	...	...
Breach of special sanitary requirements for bakehouses (SS. 97 to 100) ...	282	282	...	...
Other offences (excluding offences relating to outwork which are included in Part 3 of this Report)	245	239	...	...
Means of escape in case of fire (insufficient) ... ..	35	6	...	...
Total ... ..	1879	1803	I	...

\* Including those specified in sections 2, 3, 7, and 8 of the Factory and Workshop Act as remediable under the Public Health Acts.

4.—REGISTERED WORKSHOPS.

Workshops on the Register (S. 131) at the end of the year		Number
Important classes of work-shops, such as workshop bakehouses, may be enumerated here.	Workshops ... ..	3558
	Bakehouses ... ..	635
	Total number of Workshops on Register ...	4193

5.—OTHER MATTERS.

Class	Number
Matters notified to H. M. Inspector of Factories :—	
Failure to affix Abstract of the Factory and Workshop Act (S. 133) ... ..	94
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act (S. 5)—	
Notified by H.M. Inspector ... ..	14
Reports (of action taken) sent to H.M. Inspector	14
Other ... ..	306
Underground Bakehouses (S. 101) :—	
Certificates granted during the year ... ..	...
In use at the end of the year ... ..	30
Not in use at the end of the year ... ..	18
Demolished ... ..	1

NOTE.—The Factory and Workshop Act, 1901 (S. 132), requires the Medical Officer of Health in his Annual Report to the District Council to report specifically on the administration of that Act in workshops and workplaces, and to send a copy of his Annual Report, or so much of it as deals with this subject, to the Secretary of State (Home Office). If the Annual Report is presented otherwise than in print, it is unnecessary to include in the copy sent to the Home Office the portions which do not relate to factories, workshops, workplaces, or homework. The duties of Local Authorities and the Medical Officer of Health under the Act of 1901 are detailed in the Home Office Memorandum of December, 1904. A further Memorandum, on the Home Work Provisions of the Factory Act, was issued to all District Councils and Medical Officers of Health in October, 1906.

I append a brief Statement on the Memorandum of the Home Office upon the Structural requirements of the Factory and Workshop Acts, as

1. Means of escape from fire :

Bye-laws have been in operation since 1908. These have been amended, and in their amended form were approved by the Local Government Board in 1913.

A large amount of work has been done under these bye-laws, and practically the whole of the factories and workshops have been dealt with.

2. Sanitary accommodation :

Although the work has not been carried out under the Sanitary Accommodation Order, 1903, the conditions stated in the Memorandum have been enforced, and all the factories and workshops have been dealt with, although changes are constantly occurring.

NATURE OF WORK	OUTWORKERS' LISTS, SECTION 107.						OUTWORK IN UNWHOLESOME PREMISES, SECTION 108			OUTWORK IN INFECTED PREMISES, SECTIONS 109, 110					
	Lists received from Employers			Occupiers as to keep- ing or sending lists	Prosecutions		Instances	Notices served	Prosecutions	Instances	Order made (S. 110)	Prosecutions (Sections 109, 110)			
	Sending twice in the year		Sending once in the year		Failing to keep or permit inspection lists	Failing to send lists									
	Lists	Outworkers											Lists	Outworkers	
		Con- tractors	Work- men											Con- tractors	Work- men
Wearing Apparel— (1) Making, etc. . . . . (2) Cleaning and washing Household linen . . . . . Lace, lace curtains, and nets . . . Curtains and furniture hangings . . Furniture and upholstery . . . . . Electro-plate . . . . . File making . . . . . Brass and brass articles . . . . . Furriers . . . . . Cables and chains . . . . . Anchors and grapnels . . . . . Cart gear . . . . . Locks, latches, and keys . . . . . Umbrellas, etc. . . . . Artificial flowers . . . . . Nets, other than wire nets . . . . . Fents . . . . . Quilts . . . . . Gold beaters . . . . . Paper, etc., boxes, paper bags . . . Window blinds . . . . . Sponges . . . . . Hair pads . . . . . Carding, etc., of buttons, etc. . . . Opticians . . . . . Handkerchief hemmers . . . . . Chocolates and sweetmeats . . . . . Stuffed toys . . . . .  Total . . . . .	826 2 . 2 . 8 . . . . 4 . . . . 36 . . 4 12 . 6 2 . 2 2 2 36 .<														

## HOUSING REQUIREMENTS IN THE CITY OF MANCHESTER.

In response to that portion of a circular form of enquiry issued by the Local Government Board in July, 1916, relating to the additional housing required, this reply was sent by the Sanitary Committee on September 13th, 1917 :—

(a) Owing to an increase of 29,023 in the population since the last census, 6,200 houses are wanted at the present time.

(b) After the War it is estimated that houses will be required for 79,023 persons, equal to 16,813 houses. To this must be added an additional 558 houses to replace the houses unfit for human habitation that may be closed or demolished, making a total of 17,371, say 17,000. (See answer to Query No. 8.)

(This includes number above under (a).

Three Schemes of housing are under consideration, viz. :—

Temple Estate—128 Cottage Flats ;

Tebbutt Street—42 Furnished Flats ;

Blackley Estate—2,609 Cottages ;

and an additional Estate of 50 acres at Gorton, which will give accommodation for about 700 houses, has been secured for purposes of housing since the reply was sent.

Town Planning Schemes are in course of preparation for North and South Manchester, and the main features of the schemes are :—

The planning of arterial roads and the regulation of the building lines, layout, widths, and construction of new streets and roads.

The limitation of the number of houses per acre so as greatly to improve the housing of the people. Consideration has also been given to warehouse and factory areas.

Certain methods are suggested with regard to the drainage and planning of houses for the working classes.

The provision of Parks, Open Spaces, and Children's Playgrounds is also under consideration.

Little was done in 1917 in the way of condemning and altering houses, partly because all the houses available in the poorer quarters are urgently needed, partly because of the difficulty of obtaining labour and the high cost of alterations.

The figures are summarised below.

The number of houses certified to, and dealt with by, the Housing Committee from February, 1885, to December 31st, 1917:—

	Number Certified and ordered to be Closed	Number of Houses added together or to other Houses	Number Demolished	Number Repaired and Re-opened	Number Closed	Number not Closed	Number which stand Adjourned
Totals.. ..	27290	3405	6733	13335	1346	2358	113

The extent to which these operations have been reduced is seen from the corresponding figures relating to 1917:—

Totals.. ..	10	..	..	..	..	10	..
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The number of conversions from pail-closets and midden privies to water-closets is given herewith:—

From April 1st, 1903, to March 31st, 1917 .. .. 75,153

From April 1st, 1916, to March 31st, 1917 .. .. 35

The numbers still requiring to be replaced are—middens, 48; pail-closets, 1,403.

THE FOLLOWING TABLE SHOWS THE RESULTS OF INSPECTION OF HOUSES REPORTED TO THE HOUSING SUB-COMMITTEE AS UNFIT FOR HUMAN HABITATION DURING THE YEAR 1917.

Number of Dwelling-houses inspected for all purposes .. .. .	27,911
„ considered by the District Inspector of Nuisances unfit for human habitation .. .. .	10
„ of representations made by the Sanitary Superintendent under a Local Act .. .. .	10
„ of Closing Orders made .. .. .	10
„ of Dwelling-houses the consideration of which stand adjourned .. .. .	..
„ put in a fit state for human habitation after Closing Order had been made .. .. .	..

General character of defects stated to exist:—

Ventilation defective .. .. .	6
Light defective .. .. .	4

The number of new houses certified during the year 1916-1917 is 19, as compared with 119 in 1915-1916, 410 in 1914-1915, 748 in 1914, 997 in 1913, and 1,072 in 1912.

In neighbouring areas the total number is only 8, against 52 in 1916, whilst in 1915 it was 238.

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## MONSALL HOSPITAL.

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REPORT BY DR. JAMES FLETCHER, Medical Superintendent.

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### REPORT FOR 1917.

The number of patients admitted was 1,831, a decrease of 201 on the preceding year. Included in this number were 244 soldiers.

The average daily number of patients in hospital was 238.0, as against 298.3 in 1916.

The average length of stay in hospital for all patients who recovered was 52.0 days; for fatal cases, 14.7.

The average daily number of resident officers, nurses, and servants was 150.

The fatality rate for all cases was 7.2 per cent., as against 6.6 in 1916. Thirty-five, or more than a quarter, of the deaths occurred within 48 hours of admission.

The health of the staff during the year was fairly good. Six Nurses contracted Scarlet Fever, five Diphtheria, three Enteric Fever, two Rubella, and one Mumps. All made good recoveries.

Ten Probationers left during or at the end of their trial months; 47 finished their training, 19 of whom proceeded to a General Hospital.

Twenty-five Nurses left for Private nursing.

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### SCARLET FEVER.

The number of patients admitted was 745, which is 207 less than in 1916.

The type of disease, generally speaking, was mild ; 14 deaths occurred, giving a fatality rate of 2 per cent., as against 2·8 in 1916. The rate was higher in females than in males.

Two patients died within 48 hours of admission.

The average stay in hospital for patients who recovered was 59·5 days ; for fatal cases, 11·8.

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### POST-SCARLATINAL DIPHTHERIA AND DIPHTHERIA "CARRIERS."

No case of Post-Scarlatinal Diphtheria occurred.

A culture was taken from the nose and throat of each Scarlet Fever patient on admission, with the result that 17 per cent. of the patients were found to be harbouring a bacillus corresponding morphologically to the Diphtheria Bacillus. The bacillus was found in the nose in 15, the throat in 1·5, and the nose and throat in ·5 per cent. of the cases.

### "RETURN" CASES.

The number of alleged infecting cases, which gave rise to 12 secondary cases, out of a total of 667 discharges, was 12. This gives a "return" case rate of 1·8 per cent., as against 1·7 in 1916.

If the interval which elapsed between the arrival home of the infecting patient and the onset of the "return" case be limited to a month, the rate becomes 1·7 per cent., as against 1·6 in 1916.

The average number of days ill of the infecting cases was 46·3, and the average interval, in days, between the return home of the patient and the onset of the "return" case 13·7, the extremes being 5 and 32.

Eleven of the 12 infecting patients had uncomplicated attacks.

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### DIPHTHERIA.

Four hundred and eighty-one patients were admitted, being 10 less than in 1916. Twenty-nine "carriers" were treated, and are not included in the calculated death-rate.

Fifty-one deaths occurred, giving a fatality rate of 11·3 per cent.; the same as in 1916. The rate was higher in males than in females.

Eighteen of the deaths took place within 48 hours of admission. Of 12 fatal cases, 8 were complicated by Measles, and 1 each with Scarlet Fever, Phthisis, Glioma of Brain, and General Tuberculosis.

The larynx was found to be involved on admission in 28 per cent. of the cases.

Tracheotomy was performed on 61 patients, of whom 18 died, giving a fatality rate of 29.5 per cent. Of the deaths, 7 occurred within 48 hours of admission, and in 3 cases Measles was co-existent.

A serum rash was noted in 26 per cent. of those injected.

The average stay in hospital for patients who recovered was 63.2 days ; for fatal cases, 11.2.

### ENTERIC FEVER.

The number of admissions was 67, or 8 more than in 1916.

Three patients died, giving a fatality rate of 4.4 per cent., as against 21.1 in 1916.

One death occurred within 48 hours of admission.

The average stay in hospital for patients who recovered was 56.2 days ; for fatal cases, 3.6.

Before discharge from hospital the stools and urine of all patients were submitted to bacteriological examination to ascertain the absence of the Typhoid Bacillus. Of 64 cases, 62 gave negative results and 2 positive, the urine being positive in both instances.

### ERYSIPELAS.

The admissions numbered 110, a decrease of 14 on the previous year.

Six deaths occurred, giving a fatality rate of 5.8 per cent., as against 4 in 1916.

The average stay in hospital for patients who recovered was 24.6 days ; for fatal cases, 8.6.

### PUERPERAL FEVER.

Forty patients were admitted, a decrease of 22 on 1916.

The infant was in 17 instances admitted with the mother.

Seven patients died, giving a fatality rate of 15.9 per cent. Two deaths took place within 48 hours of admission.

The average stay in hospital for patients who recovered was 33.4 days ; for fatal cases, 7.8.

### CEREBRO-SPINAL FEVER.

Twelve patients were admitted, of whom 4 recovered, 8 died, giving a fatality rate of 66.6 per cent. Two deaths occurred within 48 hours of admission.

Two "carriers" were admitted for treatment.

### OTHER DISEASES.

In this class are included cases of Measles, Rubella, and Varicella, patients whose illness was incorrectly diagnosed, certain cases of non-notifiable disease, and infants admitted with their mother.

Thirty-seven deaths occurred, giving a fatality rate of 10.2 per cent. Ten deaths took place within 48 hours of admission.

The average stay in hospital for patients who recovered was 30.5 days ; for fatal cases, 24.5.

### MALNUTRITION CASES.

The ten cots at the Crèche were full practically the whole year with children suffering from Malnutrition.

Four cases were in hospital at the end of 1916, 19 cases were admitted, 8 were discharged in a good state of health, 5 died, and 10 remained at the end of the year.

Of the deaths, 3 were due to Enteritis, 1 to Congenital Syphilis and Enteritis, and 1 to Tabes Mesenterica and Tubercular Meningitis.

Speaking generally, the results have been quite satisfactory.

The length of stay of most of the children has been a long one, so as to give them a good start in life.

It is worth recording that no case of Infectious Disease occurred among the patients during the year.

## LABORATORY REPORT.

All the necessary media were prepared by the Dispenser at the hospital. The number of Bacteriological examinations performed was as follows :—

Cultures from Nose, Throat, and Ear .. .. .	8,341
„ Spinal Fluid .. .. .	10
„ Uterus .. .. .	29
Widal reactions. . . . .	100
Para-typhoid A reactions .. .. .	4
„ B „ .. .. .	6
Bac. Enteritidis . „ .. .. .	29
Typhoid Stools .. .. .	98
„ Urine .. .. .	102
Examination of Spinal fluid .. .. .	61
„ Pus .. .. .	6
„ Sputum .. .. .	2
„ Hairs .. .. .	19
Smears from Throat .. .. .	42
	<hr/>
	8,849
	<hr/>

## STATISTICAL REPORT FOR THE YEAR 1917.

Remaining in hospital on January 1st, 1917 .. ..	224
Patients admitted during 1917 .. .. .	1,831
	<hr/>
	2,055
	<hr/>

Recovered and died during 1917 .. .. .	1,745
Remaining in hospital on December 31st, 1917 .. ..	310
	<hr/>
	2,055
	<hr/>

Total number of deaths during 1917 .. .. .	126
Net mortality .. .. .	7.2%
Of the deaths, 72 occurred within 48 hours of admission	27.7%
Daily average number of patients .. .. .	238
„ „ officers, nurses, and servants	150
Average stay of recovered patients (in days) .. ..	52.0
„ „ fatal cases .. .. .	14.7

TABLE SHOWING NUMBERS OF VARIOUS DISEASES TREATED.

DISEASE	Remaining in Hospital, Jan. 1st, 1917	Admitted during 1917	Discharges and Deaths during 1917	Remaining in Hospital, Dec. 31st, 1917
Scarlatina .....	112	745	681	176
Diphtheria .....	79	481	477	83
Enteric Fever.....	9	67	67	9
Erysipelas .....	9	110	102	17
Puerperal Fever.....	6	40	44	2
Cerebro-Spinal Fever .....	0	12	12	0
Typhus Fever .....	0	1	0	1
Other Diseases .....	9	375	362	22
Total.....	224	1831	1745	310

## SCARLATINA.

AGE OF PATIENTS	MALE			FEMALE			TOTAL		
	Cases	Died		Cases	Died		Cases	Died	
Under one year ...	2	...		2	...		4	...	
1 to 2 years ...	11	...		11	2		22	2	
2 to 3 „ ...	21	1		19	...		40	1	
3 to 4 „ ...	32	3		32	1		64	4	
4 to 5 „ ...	21	...		23	1		44	1	
5 to 10 „ ...	137	1		154	4		291	5	
10 to 15 „ ...	50	...		76	...		126	...	
15 to 20 „ ...	15	...		22	...		37	...	
20 to 25 „ ...	10	...		15	1		25	1	
25 to 30 „ ...	5	...		7	...		12	...	
30 and over ...	7	...		9	...		16	...	
Total .....	311	5	Mor- tality percent.	370	9	Mor- tality percent.	681	14	Mor- tality percent

Two deaths occurred within 48 hours of admission.  
Of the deaths, two were complicated by other co-existent disease.

COMPLICATIONS IN SCARLET FEVER.

Complication	Number	Percentage
Rhinorrhœa in Convalescence..	80	11·7
Otorrhœa .....	39	5·7
Nephritis .....	13	1·9
Albuminuria of Convalescence..	34	5·0
Adenitis and Abscess .....	7	1·0
Onychia .....	6	0·9
Relapse .....	4	0·6
Pneumonia .....	4	0·6
Arthritis .....	5	0·7
Endocarditis .....	2	0·3
Mastoid Abscess .....	2	0·3

DIPHTHERIA.

AGE OF PATIENTS	MALE			FEMALE			TOTAL		
	Cases	Died		Cases	Died		Cases	Died	
Under 1 year ...	5	3		5	2		10	5	
1 to 2 years ...	19	5		10	3		29	8	
2 „ 3 „ ...	22	4		14	3		36	7	
3 „ 4 „ ...	32	3		19	4		51	7	
4 „ 5 „ ...	22	1		23	1		45	2	
5 „ 10 „ ...	71	10		86	8		157	18	
10 „ 15 „ ...	20	...		38	1		58	1	
15 „ 20 „ ...	14	1		15	...		29	...	
20 „ 25 „ ...	12	...		1	...		13	1	
25 „ 30 „ ...	4	...		6	...		10	...	
30 and over ...	7	1		3	1		10	2	
			Mor-			Mor-			Mor-
			tality			tality			tality
			per cent.			per cent.			per cent.
Total .....	228	28	12·2	220	23	10·4	448	51	11·3

18 deaths occurred within 48 hours of admission.  
Of the deaths, 12 were complicated by other co-existent diseases.

DIPHTHERIA.

TABLE SHOWING INTERVAL ELAPSING BETWEEN DATE WHEN THE PATIENT WAS FIRST SEEN BY A MEDICAL MAN AND THE DATE OF ADMISSION TO HOSPITAL, ALSO SHOWING DAY OF DISEASE ON ADMISSION.

DAYS' INTERVAL	Interval between admission and date when patient was first seen by a Medical Attendant		Day of disease on admission	Day of disease on admission	
	All Cases	Deaths		All Cases	Deaths
Sent in on the same day	142	15	Sent in on the same day		
1 day interval .....	81	10	1 day .....	6	1
2 days' ,, .....	50	5	2nd day.....	68	9
3 ,, ,, .....	57	8	3rd ,, .....	64	5
4 ,, ,, .....	44	4	4th ,, .....	80	8
5 ,, ,, .....	27	3	5th ,, .....	78	15
6 ,, ,, .....	17	3	6th ,, .....	50	5
7 ,, ,, .....	8	1	7th ,, .....	34	2
8 ,, ,, .....	5	1	8th ,, .....	22	1
9 ,, ,, .....	6	...	9th ,, .....	17	1
10 ,, ,, .....	3	...	10th ,, .....	5	2
Over 10 days' interval	8	1	Over 10th day ...	24	2
Total .....	448	51	Total .....	448	51

COMPLICATIONS IN DIPHTHERIA.

Complication	Number of Cases	Percentage
Otorrhœa .....	8	1·8
Broncho-pneumonia .....	14	3·1
All forms of Paralysis .....	33	7·3
Palate alone .....	27	6·0
Cardiac Paralysis .....	1	0·2
Other Paralysis .....	5	1·1

TRACHEOTOMY CASES.

AGE OF PATIENTS		NO. OF PATIENTS	DIED	MORTALITY PER CENT.
Under 1 year	.....	4	3	75·0
1 to 2 years	.....	13	6	46·1
2 „ 3 „	.....	9	3	33·3
3 „ 4 „	.....	9	2	22·2
4 „ 5 „	.....	5	...	...
5 „ 10 „	.....	19	3	15·7
10 „ 15 „	.....	1	...	...
15 and over	.....	1	1	100
Total		61	18	29·5

Of the deaths, 7 occurred within 48 hours of admission, and in 3 cases Measles was co-existent.

ENTERIC FEVER.

AGE OF PATIENTS	MALE			FEMALE			TOTAL		
	Cases	Died		Cases	Died		Cases	Died	
1 to 2 years ...	...	...		1	...		1	...	
2 to 3 „ ...	1	...		...	...		1	...	
3 to 4 „ ...	...	...		...	...		...	...	
4 to 5 „ ...	...	...		...	...		...	...	
5 to 10 „ ...	2	...		5	...		7	...	
10 to 15 „ ..	6	...		7	...		13	...	
15 to 20 „ ...	4	...		6	...		10	...	
20 to 25 „ ...	2	...		4	...		6	...	
25 to 30 „ ...	3	...		8	1		11	1	
30 to 35 „ ...	2	...		1	...		3	...	
35 to 40 „ ...	3	...		2	...		5	...	
40 to 45 „ ...	4	...		3	1		7	1	
45 to 50 „ ...	1	1		...	...		1	1	
50 and over .....	1	...		1	...		2	...	
			Mor- tality percent.			Mor- tality percent.			Mor- tality percent.
Total.....	29	1	3·4	38	2	5·1	67	3	4·4

Of the deaths, 1 occurred within 48 hours of admission.

ENTERIC FEVER.

TABLE SHOWING INTERVAL ELAPSING BETWEEN DATE WHEN PATIENT WAS FIRST SEEN BY A MEDICAL MAN AND THE DATE OF ADMISSION TO HOSPITAL, ALSO SHOWING DAY OF DISEASE ON ADMISSION.

DAYS' INTERVAL	Interval between admission and date when Patient was first seen by a Medical Attendant		Day of disease on admission	Day of disease on admission	
	All Cases	Deaths		All Cases	Deaths
Sent in on same day...	4	...	1st day ... ..	...	...
1 day interval ...	0	...	2nd ,, ... ..	...	...
2 days' ,, ...	1	...	3rd ,, ... ..	1	...
3 ,, ,, ...	6	...	4th ,, ... ..	...	...
4 ,, ,, ...	6	...	5th ,, ... ..	1	...
5 ,, ,, ...	3	1	6th ,, ... ..	1	...
6 ,, ,, ...	7	...	7th ,, ... ..	3	...
7 ,, ,, ...	4	...	2nd week ... ..	24	1
8 ,, ,, ...	8	...	3rd ,, ... ..	24	...
9 ,, ,, ...	2	...	4th ,, ... ..	5	1
10 ,, ,, ...	5	...	5th ,, ... ..	3	...
Over 10 days' interval	21	2	Over 5th week ...	5	1
Total ... ..	67	3	.....	67	3

BAGULEY SANATORIUM.

BY DR. W. H. SMITH.

REPORT FOR THE YEAR ENDING DECEMBER 31ST, 1917.

Remaining in hospital, January 1st, 1917 .. .. .	284
Admitted during the year .. .. .	769
Total treated .. .. .	1053
Total discharged .. .. .	596
Total deaths .. .. .	166
Remaining in hospital, December 31st, 1917 .. ..	291

The death-rate per cent. during the year was 15·7.

The death-rate per cent. during the previous year was 18·2.

The average stay per patient was 129·3 days.

The average stay per patient during the previous year was 111·3 days.

TABLE A.

	Number in Hospital	Admitted	Discharged	Died	Remaining at the end of the month
January 1st .. ..	284	83	43	24	300
February 1st .. ..	300	52	43	11	298
March 1st .. ..	298	60	50	15	293
April 1st.. .. .	293	62	41	17	297
May 1st .. .. .	297	51	41	18	289
June 1st.. .. .	289	59	42	10	296
July 1st .. .. .	296	71	55	13	299
August 1st .. ..	299	63	63	7	292
September 1st ..	292	58	37	10	303
October 1st .. ..	303	71	71	12	291
November 1st ..	291	74	48	16	301
December 1st.. ..	301	65	62	13	291
Total for Year..	..	769	596	166	..

TABLE B.

Age Analysis.

Ages	MALES			FEMALES		
	Admitted	Discharged	Died	Admitted	Discharged	Died
0 to 4 .. .. .	..	..	..	..	..	..
5 „ 14 .. .. .	14	11	..	6	1	2
15 „ 24 .. .. .	124	96	26	110	91	33
25 „ 34 .. .. .	109	100	19	82	69	10
35 „ 44 .. .. .	130	92	34	66	57	12
45 „ 64 .. .. .	97	55	24	28	23	6
65 „ — .. .. .	3	..	..	..	1	..
	477	354	103	292	242	63

TABLE C.

*Working Capacity on Discharge.*

Full..	..	..	..	..	..	..	25
Good	..	..	..	..	..	..	77
Fair..	..	..	..	..	..	..	172
Poor	..	..	..	..	..	..	142
Nil ..	..	..	..	..	..	..	180
Total	..	..	..	..	..	..	<u>596</u>

During the year the total accommodation of the Hospital has been available—188 beds for men and 120 for women. The cases have again been of a very advanced type, and the number of deaths does not give a fair idea of the severity, as a large number of cases are taken home and die a few days later.

The patients who are able help in the work of keeping their wards clean, polishing taps and other brass work, setting tables in the dining hall, sweeping paths, cutting grass, and rolling the bowling green. Some of the patients take an interest in keeping their wards tidy ; but many are careless and lazy, and will avoid every duty they possibly can.

The Pathological work has necessarily been limited to the examination of sputum for the Tubercle Bacillus, as there has only been one Assistant, and he had to do the dispensing as well as help with the ward work.

The patients' diet has been a source of great trouble during the year, owing to the difficulties in getting food. We have had to arrange the diet from day to day according to the provisions we have been able to obtain.

A great proportion of the patients discharged have gone out against advice. This means that they are still infectious, and that we wish to detain them in order to protect others living in the same house.

A large number of reasons are given :—

That they are tired of the place.

That they are not allowed out of bed sufficiently long.

That they can get “ dainties ” at home.

Of course, the great reason—and one that it is quite impossible to combat—is that they have dependants at home, and must try to earn some money. This reason becomes more urgent at the end of the 26 weeks' Insurance benefit, as 5s. per week Disablement benefit is of very little use in these days.

The Dental Surgeon has attended about 400 patients during the year. His work has been confined to extractions, but arrangements have now been made to fully equip the dental room, and he will now be able to attend more thoroughly to the patients' teeth. Many need their teeth thoroughly scaling and cavities filled, in order to get their mouths in a fit condition for mastication.

New dentures will be made in suitable cases.

The kitchen garden and farming operations have again been successful, and have proved a great-convenience and also a source of profit.

ABERGELE SANATORIUM.

REPORT FOR THE YEAR ENDING MARCH 31ST, 1918.

BY DR. A. G. M. GRANT, *Temporary Medical Superintendent.*

During the year ending March 31st, 1918, 139 patients were admitted, including six children suffering from Surgical Tuberculosis. There were 138 patients discharged, five of whom were children, and there was one death. Of the five children discharged, the disease was healed in four (multiple bone lesions, one ; spine, one ; cervical glands, one ; abdominal tuberculosis, one), and the remaining one (hip joint) was much improved.

The following table shows a classification according to age and sex of the cases under treatment :—

Ages	MALES			FEMALES		
	Admitted	Discharged	Died	Admitted	Discharged	Died
0 to 4 .. .. .	..	..	..	..	..	..
5 „ 14 .. .. .	6	3	..	..	2	..
15 „ 24 .. .. .	23	30	..	13	11	..
25 „ 34 .. .. .	38	36	..	11	13	..
35 „ 44 .. .. .	35	30	..	2	2	..
45 „ 64 .. .. .	8	8	1	2	2	..
65 .. .. .	1	1	..	..	..	..
Total .. ..	111	108	1	28	30	..

Table 2 shows a classification of the immediate results of treatment in the discharged pulmonary cases :—

PATIENTS IN WHOSE SPUTUM TUBERCLE BACILLI HAVE BEEN FOUND AT SOME PERIOD.

(A) *Patients discharged with working capacity fully restored.*

MALES						FEMALES					
Stage on Admission	Number Treated	Stage on Discharge				Stage on Admission	Number Treated	Stage on Discharge			
		0	1	2	3			0	1	2	3
I	6	2	4	..	..	I	..	..	..	..	..
2	3	..	2	I	..	2	..	..	..	..	..
3	..	..	..	..	..	3	..	..	..	..	..
Total....	9	2	6	I	..	Total..	..	..	..	..	..

(B) *Patients discharged with working capacity incompletely restored.*

MALES						FEMALES					
Stage on Admission	Number Treated	Stage on Discharge				Stage on Admission	Number Treated	Stage on Discharge			
		0	1	2	3			0	1	2	3
I	3	..	3	..	..	I	..	..	..	..	..
2	6	..	2	4	..	2	I	..	..	I	..
3	I8	..	..	..	I8	3	2	..	..	..	2
Total....	27	..	5	4	I8	Total..	3	..	..	I	2

(C) *Patients discharged without restoration of working capacity.*

I	..	..	..	..	..	I	..	..	..	..	..
2	I	..	..	I	..	2	..	..	..	..	..
3	I4	..	..	..	I4	3	7	..	..	..	7
Total....	I5	..	..	I	I4	Total..	7	..	..	..	7

(D) *Deaths—NIL.*

## PATIENTS IN WHOSE SPUTUM TUBERCLE BACILLI HAVE NEVER BEEN FOUND.

(A) *Patients discharged with working capacity fully restored.*

MALES						FEMALES					
Stage on Admission	Number Treated	Stage on Discharge				Stage on Admission	Number Treated	Stage on Discharge			
		0	1	2	3			0	1	2	3
I	21	13	8	..	..	I	5	2	3	..	..
2	5	..	4	1	..	2	..	..	..	..	..
3	2	..	..	2	..	3	..	..	..	..	..
Total....	28	13	12	3	..	Total..	5	2	3	..	..

(B) *Patients discharged with working capacity incompletely restored.*

I	10	..	10	..	..	I	7	..	7	..	..
2	7	..	3	4	..	2	1	..	..	1	..
3	5	..	..	1	4	3	3	..	..	1	2
Total....	22	..	13	5	4	Total..	11	..	7	2	2

(C) *Patients discharged without restoration of working capacity.*

I	..	..	..	..	..	I	1	..	1	..	..
2	..	..	..	..	..	2	..	..	..	..	..
3	4	..	..	..	4	3	1	..	..	..	1
Total....	4	..	..	..	4	Total..	2	..	1	..	1

(D) *Deaths.*

I	..		I	..
2	..		2	..
3	1		3	..
Total....	1		Total..	..

Artificial Pneumo-thorax was induced in a few cases of unilateral advancing disease which failed to yield to other measures.

The main treatment, however, was based on the system of graduated exercises and rest, and a brief sketch of the progressive stages may be of interest.

After admission, patients were kept in bed for a period of observation, generally varying from four days to a week, when the temperature and pulse were carefully noted and the general condition watched. In the absence of any untoward symptoms, they were then allowed out of bed for a few hours, with the periods lengthened daily until the maximum was reached, viz., 7 a.m. until 9 p.m. At this stage graduated walks were begun, the walks being specially marked out with the time to be taken to each specified. Those who showed no sign of fatigue nor rise of rest temperature passed on to work, which was graded as follows :—

Grade I.—Work occupying 1 hour : polishing brasses, cleaning knives and spoons, varnishing sputum boxes.

Grade II.—Work occupying 1—2 hours : sweeping paths, hoeing, chopping wood.

Grade III.—Work occupying 2 hours : weeding, clipping hedges, mowing, forking soil, wheeling light barrow-loads.

Grade IV.—Work occupying 3—4 hours : ordinary garden work such as digging, wheeling barrows, etc.

An endeavour was made to create in the patients an interest in the work in which they were engaged, and with this aim they were given something useful to do and were made responsible for it, one being entrusted with the mowing of the lawns, another with the keeping clean of certain walks, another with the attending to a small garden plot, etc. Those so employed were retained at their special work, and instead of passing into a higher grade of labour they had their hours increased. Of those discharged, 42 reached the grade of full work.

The following table shows a classification of the patients according to the stage of treatment reached before discharge, with the respective average gain in weight :—

Stage of Treatment	Number of Cases	Average gain in weight	
No work . . . . .	28 (6 not weighed)	lbs. 8	ozs. 6
Work for 1 hour . .	13	7	12½
Work for 2 hours . .	50	11	5
Work for 3—4 hours . .	42	12	11¼

Of the discharged patients, 121 gained in weight, the average gain being 11lb. 9ozs. ; 5 lost in weight, with an average loss of 2lb. 12ozs. ; 1 remained stationary ; while the condition of the remaining 6 did not allow of their being weighed.

In a few cases the treatment was interrupted by the patients having to return home, chiefly owing to financial difficulties or other domestic troubles.

Short lectures were given throughout the year dealing with the disinfection of sputum and the precautions to be taken on the patients' return home, with special reference to the high degree of infectivity among children. Simple explanations of the nature of Tuberculosis and of the causes of the constitutional disturbances were also included, in the hope that a more intelligent understanding of the rationale of the treatment might lead to a closer co-operation on the part of the patients.

The importance of diet in the treatment of Tuberculosis may justify the inclusion of the daily menu of a sample week :—

	BREAKFAST	DINNER	TEA	SUPPER
SUNDAY ...	Porridge and Milk Haddock Bread and Butter Tea	Roast Beef Beetroot Potatoes Stewed Plums and Sauce	Bread and Butter Jam Tea	Boiled Eggs Cheese Bread and Butter Coffee or Cocoa
MONDAY ...	Porridge and Milk Bacon Bread and Butter Tea	Roast Mutton Cauliflower Potatoes Ginger Pudding and Sauce Milk	Bread and Butter Tea	Potato Hash Cheese Bread and Butter Coffee or Cocoa
TUESDAY...	Porridge and Milk Cold Ham Bread and Butter Tea	Boiled Mutton Cauliflower Potatoes Rice Pudding ; Milk	Bread and Butter Tea	Soup Tomatoes Cheese ; Bread and Butter Coffee or Cocoa
WEDNESDAY	Porridge and Milk Fried Eggs Bread and Butter Tea	Stewed Steak and Kidney Cabbage Potatoes Sago Pudding ; Milk	Bread and Butter Syrup Tea	Mince Beans Cheese ; Bread and Butter Apples Coffee or Cocoa
THURSDAY	Porridge and Milk Bacon Bread and Butter Tea	Boiled Beef Marrow Potatoes Tapioca Pudding	Bread and Butter Tea	Potato Hash Cheese Bread and Butter Coffee or Cocoa
FRIDAY ...	Porridge and Milk Bacon Bread and Butter Tea	Soup Fried Fish ; Sauce Potatoes Ginger Pudding and Sauce	Bread and Butter Syrup Tea	Hot and Cold Tripe Cheese Bread and Butter Coffee or Cocoa
SATURDAY	Porridge and Milk Boiled Eggs Bread and Butter Tea	Stewed Mutton Cauliflower Potatoes Sago Pudding	Bread and Butter Tea	Soup Suet Dumpling Cheese ; Bread and Butter Coffee or Cocoa

Throughout the year, extensive forestry operations were carried out on the estate, many trees were felled, and over seven acres were planted with young pine.

The farming methods were improved. Land that was found unprofitable to cultivate owing to its high situation was partly laid down in permanent pasture, and drinking water for cattle was brought to the fields from the brook in the valley by means of a Blake's ram.

An ample supply of milk, vegetables, and fruit for the needs of the Sanatorium was obtained from the farm and garden.

The following financial statement shows the expenditure incurred during the year in the maintenance of the Sanatorium, together with the interest and sinking fund charges on the estate :—

Daily average number of patients .. .. .	56		
Resident staff .. .. .	19		
	<u>75</u>		
	£	s.	d.
Total Expenditure, not including Interest and Sinking Fund			
Charges .. .. .	6,404	17	4
Less Receipts .. .. .	999	12	8
	<u>5,405</u>	<u>4</u>	<u>8</u>
	£	s.	d.
Interest and Sinking Fund Charges .. .. .	1,213	1	2
Total Expenditure, including Interest and Sinking Fund			
Charges, but not deducting Receipts .. .. .	7,617	18	6
Cost of Provisions .. .. .	2,770	5	9
Cost of each patient per week, not including Interest and			
Sinking Fund Charges, and not deducting Receipts ..	2	3	10 $\frac{3}{4}$
Cost of each patient per week after deducting Receipts ..	1	17	0 $\frac{1}{2}$
Cost of Provisions per head per week for patients and staff			
combined .. .. .	0	14	1 $\frac{3}{4}$
Cost of each patient per week other than food, after deducting			
Receipts .. .. .	0	17	11 $\frac{1}{4}$
Cost of each patient per week, including Interest and			
Sinking Fund Charges, and not deducting Receipts ..	2	12	2 $\frac{1}{2}$

## REPORT BY MR. A. T. ROOK, SUPERINTENDENT OF THE SANITARY DEPARTMENT.

Sanitary Department,  
Town Hall, Manchester.

In presenting to the Medical Officer of Health the report of the work transacted in the Sanitary Department for the year ending 31st March, 1917, I beg to state that the City, for inspection and other purposes, is divided into 33 Districts, to each of which one Sanitary Inspector has been assigned.

In addition to these there is a Superintendent, a Deputy Superintendent, one Chief Inspector, one Drainage, four Smoke, one Canal Boats, four Lodging-house, three Adulteration of Food, two Milkshops, ten Factory and Workshops Inspectors, including two Female Inspectors, and two Drain Examiners. There is also a staff of 30 Clerks for clerical and other work.

In the Drainage Department there is also a Chief Inspector, three Clerks, and two Clerks of Works for supervising and measuring up work done by the contractors employed by the department in carrying out private drainage work.

Only work of an absolutely essential character has been carried out during the year, owing to the staff having been greatly depleted during the present national crisis, 74 officials of the department having joined His Majesty's Forces.

The number of complaints of nuisances of various kinds made during the year was 4,623 :—

1,854 through the Medical Officer of Health's Department.

2,750 by the public.

19 through the Police.

### HOUSES LET IN LODGINGS.

Under the powers given by Section 90 of the Public Health Act the bye-laws made thereunder have been enforced.

The number of houses on the register is 2,118. To these 24,113 day visits and 566 night visits have been paid. 130 infringements of the regulations have been reported and dealt with.

## DAIRIES, MILKSHOPS, AND COWSHEDS REGULATIONS.

Under this Order, which was made in July, 1879, and the Regulations thereunder in 1896, 2,711 milkshops and dairies and 96 cowkeepers are now on the register. The number of cows kept is 1,429. The number of visits to dairies, milkshops, and cowsheds was 4,880. Six infringements of the regulations have been reported and dealt with.

The number of ice-cream manufacturers on the Register is 488. The number of visits was 1,665.

## WORKSHOPS, BAKEHOUSES, SHOPS ACTS, AND ORDERS MADE THEREUNDER.

During the year the Factory and Workshop Act of 1901 has received the careful attention of the Male and Female Inspectors specially appointed for the duties, the Female Inspectors devoting a large portion of their time to visiting the 2,847 houses of outworkers in the City. Workshop Act

Provision for means of escape in case of fire in factories and workshops has also received attention, and all known cases of danger have been dealt with. Means of Escape  
in case of Fire

Periodical changes will, of course, from time to time take place in various ways which will bring buildings within the meaning of the Act, and necessitate the constant supervision of the Inspectors and action on the part of the Authorities.

The number of bakehouses in the City is 639 ; of these, 49 are situate in basement premises, and special attention has been given to them. Bakehouses

The Shops Act, which came into force on the 1st May, 1912, has received attention, registers of all shops having been prepared. Orders of Exemption from compulsory closing have been made in 33 trades. In 5 trades Orders have been made fixing the day for the weekly half-holiday, and in 3 trades Orders have been made fixing the closing hour for the several days of the week. Shops Act

Many visits have been paid to houses in various parts of the City in which outwork is carried on, as will be seen on reference to the following tabulated statement, but constant visitation is necessary to maintain the standard of cleanliness which is to be desired, especially in houses in which shirt-making, handkerchief-hemming, brace-making, and umbrella-covering, etc., is done. Outworkers

The people, as a rule, appear willing to carry out any suggestion made by the Inspectors to keep their houses clean ; but at the same time it is almost impossible for small houses, sometimes containing large families, to be kept in such a satisfactory condition as workshops.

The work done under the above Acts is shown in the following tables:—

Number of District.	INSPECTOR	SHOPS				WORKSHOPS					BAKEHOUSES					OUT- WORKERS																					
		Number visited	Number of infringements reported to Committee		Employment of Children Act	Number of cases in which Magisterial proceedings have been taken	Number cautioned by Committee	Number of premises in which Sanitary defects were found	Number of cases reported to the Factory Inspector	Number of Infringements reported to the Committee	Number of cases in which Magisterial proceedings have been taken	Factories and Workshops not provided with proper means of escape in case of fire	Means of escape in case of fire not being maintained in accordance with the requirements of the Act	Number visited	Number of premises in which Sanitary defects were found	Number of reports referred to Factory Inspector	Number of Infringements reported to the Committee	Number of cases in which Magisterial proceedings have been taken	Number of visits to houses where outworkers are employed	Number of houses found dirty																	
			Shops Act	Number of cases in which Magisterial proceedings have been taken																	Number cautioned by Committee																
1	(a) Leonard Illingworth...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...																	
2	(b) Richard Tolson .....	830	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...																	
3	Alfred Campbell.....	3231	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...																	
4	Thomas Nicholson ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...																	
5	(b) Thomas A. Linfoot ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...																	
6	George Vernon .....	2583	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...																	
7	Ernest Dooley .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...																	
8	Francis J. Rowe.....	404	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...																	
...	Mrs. Rosa G. Clift.....	809	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...																	
...	Miss Ethel Harrison...	707	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...																	
	TOTALS .....	8564	8	4	21	7	12883	924	434	7	2	29	238	1719	281	41	...	...	9707	85																	

Totals on Registers—Shops, 21,773; Workshops, 3,780; Bakehouses, 639.

(a) Engaged on Sanitary District Work.  
(b) With H.M. Forces.

SHOWING THE NUMBER AND CLASSIFICATION OF PERSONS EMPLOYED AS  
OUTWORKERS BY FIRMS WITHIN THE CITY, AND THE NUMBER OF  
SUCH FIRMS.

TRADES	No. of Employers	No. of Outworkers or Contractors employed
Makers of Wearing Apparel ... ..	* 460	2762
Button Carding ... ..	1	3
Cabinet Makers and Upholsterers ... ..	5	7
Cleaning and Washing ... ..	1	1
Fent Sorters ... ..	2	6
Fur Workers ... ..	2	13
Hair Pad and Frame Makers ... ..	1	2
Handkerchief Hemmers ... ..	20	156
Lace, Lace Curtains, and Nets ... ..	1	6
Opticians ... ..	1	1
Paper Bags and Box Makers... ..	3	9
Quilt, Cushion, &c., Makers ... ..	6	35
Umbrella Trimmers... ..	19	173
Window Blinds ... ..	1	1
Totals ... ..	523	*3175

\* 2847 of these are in the City, the remainder are in the districts of other Local Authorities,  
to whom lists showing the names and addresses have been sent.

SHOWING THE PROCEEDINGS TAKEN UNDER THE PROVISIONS OF THE ADULTERATION OF FOOD AND DRUGS AND THE MARGARINE ACTS.

ARTICLE	Number of Samples Obtained	Number Adulterated	Number not Adulterated	Number Sum-moned before Magistrates	Number Fined	Number Ordered to Pay Costs only	Number Dismissed or Withdrawn	Amount of Fines Imposed			Amount of Costs Ordered to be Paid		
								£	s.	d.	£	s.	d.
Arrowroot and Corn Flour .....	8	...	8	...	...	...	...	.....			.....		
Bacon .....	1	...	1	...	...	...	...	.....			.....		
Baking Powder.....	32	...	32	...	...	...	...	.....			.....		
Beef Dripping .....	1	...	1	...	...	...	...	.....			.....		
Beer .....	64	...	64	...	...	...	...	.....			.....		
Bread .....	42	...	42	...	...	...	...	.....			.....		
Butter .....	478	4	474	2	...	...	2	.....			.....		
Camphorated Oil .....	8	...	8	...	...	...	...	.....			.....		
Castor Oil .....	7	...	7	...	...	...	...	.....			.....		
Cheese .....	41	...	41	...	...	...	...	.....			.....		
Cocoa .....	42	...	42	...	...	...	...	.....			.....		
Cod Liver Oil .....	5	...	5	...	...	...	...	.....			.....		
Coffee .....	90	...	90	...	...	...	...	.....			.....		
Confectionery and Mincemeat ...	56	...	56	...	...	...	...	.....			.....		
Cream and Preserved Cream .....	72	...	72	...	...	...	...	.....			.....		
Cream of Tartar Substitute.....	18	5	13	...	...	...	...	.....			.....		
Drugs .....	61	...	61	...	...	...	...	.....			.....		
Flour.....	50	...	50	...	...	...	...	.....			.....		
Jams .....	25	...	25	...	...	...	...	.....			.....		
Ketchup and Sauces.....	10	...	10	...	...	...	...	.....			.....		
Lard .....	81	...	81	...	...	...	...	.....			.....		
Margarine .....	48	...	48	...	...	...	...	.....			.....		
Meat (tinned and prepared) .....	34	...	34	...	...	...	...	.....			.....		
Milk .....	1275	87	1188	76	49	5	22	120	0	0	52	1	8
Milk (skimmed)...	2	...	2	...	...	...	...	.....			.....		
Mineral Waters, Cordials, &c. ...	27	...	27	...	...	...	...	.....			.....		
Mustard.....	14	...	14	...	...	...	...	.....			.....		
Oatmeal.....	19	...	19	...	...	...	...	.....			.....		
Olive Oil .....	2	...	2	...	...	...	...	.....			.....		
Pearl Barley .....	4	...	4	...	...	...	...	.....			.....		
Pepper .....	25	...	25	...	...	...	...	.....			.....		
Pickles .....	5	...	5	...	...	...	...	.....			.....		
Rice, Tapioca, &c.....	44	...	44	...	...	...	...	.....			.....		
Spices .....	23	...	23	...	...	...	...	.....			.....		
Spirits .....	159	...	159	...	...	...	...	.....			.....		
Sugar .....	21	...	21	...	...	...	...	.....			.....		
Tea .....	80	...	80	...	...	...	...	.....			.....		
Treacle and Golden Syrup.....	14	...	14	...	...	...	...	.....			.....		
Vinegar .....	7	...	7	...	...	...	...	.....			.....		
Wines .....	11	...	11	...	...	...	...	.....			.....		
Totals .....	3006	*96	2910	78	49	5	24	120	0	0	52	1	8

\* In 7 of these cases no Magisterial proceedings were taken, 2 samples of Butter and 5 samples of Cream of Tartar Substitute have been taken informally.

In addition to the above, 401 samples of Milk have been procured from Farmers' cans by the Sampling Officers for bacteriological examination under the Milk Clauses of the Manchester General Powers Acts.

Fertilizers and Feeding Stuffs Act, 1906.

Twenty-four samples were procured under this Act, which were submitted to Professor Delépine for analysis, eight of which were reported on as adulterated.

### SMOKE NUISANCES.

For the abatement of smoke nuisances the four Inspectors appointed specially for this work have taken 601 timed observations of half-an-hour each, with the result that 65 notices for the abatement of nuisances have been served. Proceedings before the Magistrates have been ordered in 48 cases out of 376 offences reported.

The abnormal number of offenders cautioned was due to the leniency on the part of the Committee, owing to a large number of firms engaged on war munition work.

Forty-eight were summoned before the Justices, in 35 of which fines were imposed amounting to £52 10s., and costs £4 9s.

Ten orders of abatement were granted and served, and three cases were excused, dismissed, or withdrawn.

Much attention during the past year, as will be seen by the above, has been given to the nuisance caused by the emission of black smoke, not only from the furnaces connected with boilers in mills, warehouses, and other works, but also from chemical and other industries, and the efforts made have already resulted in a considerable reduction of the nuisance.

Chimneys of firms in adjoining districts have also been observed in regard to smoke nuisances, and communications sent to the Authorities concerned.

### CANAL BOATS ACTS.

The number of canal boats on the register is 422.

The number of inspections made was 2,104, resulting in one infringement of the Acts being discovered, which was referred to the Justices to be dealt with.

Caution notices were sent to the owners or masters of 57 boats.

### OFFENSIVE TRADES.

The number of offensive trades on the register is 890. These have been placed under close supervision, and periodical visits paid.

### UNHEALTHY DWELLINGS.

During the year 193 houses were certified to be dealt with by the Sanitary Committee.

Of these, 119 were ordered to be closed, and 74 were adjourned.

In the majority of these the owners arranged to make alterations to meet the requirements of the Corporation.

## PROSECUTIONS FOR OFFENCES, WITH RESULTS.

Description of Offence	Number of Sum- monses taken out	Number of Persons Fined, with Costs	Number of Persons ordered to pay Costs only	Number adjourned	Number Excused, Dismissed, or Withdrawn	Amount of Fines Imposed	Amount of Costs ordered to be Paid
Did not affix notice in shop as to Assistants' Weekly Half-holiday	1	1	..	..	..	£ s. d. 0 10 0	£ s. d. .. ..
Neglecting to provide and maintain sufficient supply of water to water-closet..	1	..	..	..	1	..	..
Shops open in contravention to the "Closing Orders"	7	6	1	..	..	2 10 0	0 4 0
Employing children under 14 years of age between 9-0 p.m. and 6-0 a.m.	21	19	..	..	2	6 15 6	2 1 6
Not forwarding lists of outworkers to the Department	2	..	2	..	..	..	0 8 0
Total..	32	26	3	..	3	9 15 6	2 13 6

## PARTICULARS RELATING TO THE OPERATIONS OF THE CLEANSING DEPARTMENT.

The Medical Officer of Health is indebted to Mr. Williamson, Superintendent of the Cleansing Department, for the following particulars relating to the operations of the Cleansing Department during the year ending 31st March, 1918:—

Cleansing Department,

Town Hall, Manchester,

September, 1918.

Dear Sir,

There are within the City 11,230 ash-boxes ; 147,616 ash-bins ; 1,403 pail-closets ; 230 midden-privies ; 66 wet middens ; 1,435 dry middens ; 168,325 water-closets at dwelling-houses ; and 40 cesspools. The pail-closets are systematically emptied at regular intervals—once, twice, or thrice weekly, as necessity demands. The middens are emptied as required. The contents of the pail-closets are taken to Holt Town and Water Street. At Holt Town the faecal matter is dried into concentrated manure. The dry refuse is consumed in the Galloway boilers, and generates the steam required for working the machinery. The worthless fine ash, which cannot be consumed, is deposited at the nearest tip at Clayton Vale. The privy refuse and faecal matter, taken to Water Street, is sent away in its crude state as nightsoil to Carrington and Chat Moss Estates. Dry combustible matter is passed into the destructor furnaces or the Galloway boilers at Water Street, and there destroyed. A quantity of fine ash at Water Street is used as an absorbent for the faecal matter from the pail-closets.

The market garbage, of which we have 3,348 tons per annum, is carted to Water Street, and destroyed in the furnaces or sent to the Committee's Estates. Slaughter-house refuse is collected from the abattoirs and private slaughter-houses and sent to Holt Town, where it is passed through dryers, and the dry material is then added to the concentrated manure. Street sweepings are generally deposited at the nearest depot, and afterwards carted to Water Street Depot and Ardwick Sidings, from whence they are despatched to farmers or to the Committee's Estates.

The total quantity of material collected by this Department during the past year amounted to 289,316 tons.

Within the City there are 42 destructor furnaces and 21 boilers, and last year 3,312 tons of mortar were made from the clinker obtained from such furnaces.

During the year 26,114 barrels of water were used in degging the streets.

During the past 26 years we have deposited upon various tips within the City the following quantities of material, viz. :—In 1892, 99,866 tons ; 1893, 109,078 tons ; 1894, 103,949 tons ; 1895, 113,836 tons ; 1896, 107,883 tons ; 1897, 99,658 tons ; 1898, 96,635 tons ; 1899, 104,481 tons ; 1900, 95,138 tons ; 1901, 64,781 tons ; 1902, 117,619 tons ; 1903, 180,985 tons ; 1904, 141,999 tons ; 1905, 118,093 tons ; 1906, 109,446 tons ; 1907, 134,072 tons ; 1908, 120,581 tons ; 1909, 123,183 tons ; 1910, 127,409 tons ; 1911, 107,742 tons ; 1912, 102,190 tons ; 1913, 89,909 tons ; 1914, 99,800 tons ; 1915, 97,370 tons ; 1916, 86,891 tons ; 1917, 90,919 tons ; and in 1918, 97,398 tons. The bulk of this material was deposited on the tips at Clayton and Harpurhey and on Carrington and Chat Moss Estates. It is composed principally of dry ashes, clinkers, and street sweepings. During last year 13,980 tons of material was sent to Carrington Estate and 41,791 to Chat Moss Estate.

Yours faithfully,

R. WILLIAMSON,  
*Superintendent.*

Dr. Niven,  
Medical Officer of Health,  
Town Hall, Manchester.

# TABLES.

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TABLE A.—MANCHESTER, 1917.

CAUSES OF DEATH AT DIFFERENT LIFE PERIODS IN THE 52 WEEKS OF THE YEAR.  
PERSONS.—(MALES AND FEMALES.)

CAUSES OF DEATH	AGES AT DEATH													
	All Ages	UNDER 5 YEARS		5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
		0 to 1	1 to 5											
All Causes .....	10207	1429	954	257	202	227	236	499	904	1221	1540	1692	903	143
A.—GENERAL DISEASES.....	3913	788	506	132	104	155	142	276	423	507	451	312	109	8
B.—LOCAL DISEASES.....	5259	433	399	91	73	59	84	193	434	665	1022	1186	542	78
C.—OTHER SPECIFIED DIS :..	...	...	...	...	...	...	...	...	...	...	...	...	...	...
D.—ILL-DEFINED DISEASES...:	604	150	6	...	...	1	...	1	1	1	12	148	230	54
E.—VIOLENT DEATHS .....	431	58	43	34	25	12	10	29	46	48	55	46	22	3
A.—General Diseases.														
Smallpox.. { Vaccinated .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
{ Not Vaccinated ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
{ No Statement.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cowpox .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chickenpox .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles .....	277	67	194	15	1	...	...	...	...	...	...	...	...	...
Epidemic Rose Rash .....	2	1	1	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever.. .....	15	1	9	4	1	...	...	...	...	...	...	...	...	...
Typhus .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Plague.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Relapsing Fever .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Influenza .....	98	4	6	4	...	1	...	4	8	13	25	21	9	3
Whooping Cough.....	49	17	29	3	...	...	...	...	...	...	...	...	...	...
Mumps .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria and Memb: Croup	63	6	33	19	2	1	1	...	1	...	...	...	...	...
Poliomyelitis .....	1	...	...	1	...	...	...	...	...	...	...	...	...	...
Cerebro-spinal Fever .....	5	...	1	...	2	...	...	2	...	...	...	...	...	...
Simple Cont: Fever.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever .....	10	...	...	...	1	1	...	2	3	2	1	...	...	...
Asiatic Cholera .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Epidemic Diarrhœa .....	115	78	32	3	...	...	...	...	...	1	...	1	...	...
Diarrhœa .....	162	121	27	...	...	...	1	1	1	3	...	4	4	...
Dysentery .....	2	...	...	...	...	...	...	...	1	1	...	...	...	...
Malarial Fever.....	1	...	...	...	...	...	...	...	...	1	...	...	...	...
Actinomycosis .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pelagra .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hydrophobia .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Glanders.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Anthrax .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tetanus .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Syphilis .....	75	50	7	...	1	2	2	2	3	5	2	...	1	...
Gonorrhœa, Strict: Urethra....	18	...	...	...	...	...	...	...	...	8	5	3	2	...
Puerperal.. { Septicæmia .....	2	...	...	...	...	...	1	...	1	...	...	...	...	...
{ Pyæmia .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
{ Phlegmasia Dol: ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...
{ Fever.....	12	...	...	...	...	...	1	9	2	...	...	...	...	...
Infective Endocarditis .....	6	...	...	...	1	1	1	...	2	...	1	...	...	...
Epidemic Pneumonia } Pneumonic Fever }	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Erysipelas .....	6	1	...	...	...	...	...	...	1	2	1	...	1	...
Septicæmia (not puerp: ).....	3	...	...	...	...	1	...	...	1	1	...	...	...	...
Pyæmia (not puerp: ).....	1	...	...	...	...	...	...	...	1	...	...	...	...	...
Phlegmon .....	2	...	1	1	...	...	...	...	...	...	...	...	...	...
Phagedæna .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Septic Diseases.....	3	...	1	...	...	...	1	1	...	...	...	...	...	...
Tubercular Phthisis.....	1079	4	20	18	38	101	101	172	253	204	108	51	9	...
Phthisis .....	117	...	...	2	4	9	8	17	20	33	13	8	3	...



TABLE A, 1917—continued.

CAUSES OF DEATH	AGES AT DEATH													
	All Ages	UNDER 5 YEARS		5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
		0 to 1	1 to 5											
3. DISEASES OF HEART.														
Valvular Dis : Endocarditis ....	452	...	2	6	11	13	17	29	67	66	112	85	40	4
Pericarditis .....	8	1	1	...	1	...	2	...	...	1	1	1	...	...
Hypertrophy of Heart.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Angina Pectoris .....	22	...	...	...	...	...	...	...	2	3	3	10	4	...
Dilatation of Heart .....	95	...	1	...	...	1	...	...	9	12	25	29	17	1
Fatty Degen : of Heart .....	20	...	...	...	...	...	...	...	2	2	11	5	...	...
Syncope, Heart Disease.....	350	5	3	1	3	2	4	9	28	48	83	116	38	10
4. DIS : OF BLOOD VESSELS.														
Cerebral Hæmorrhage.....	502	1	1	1	1	1	...	6	17	77	125	188	74	10
Apoplexy, Hemiplegia.....	102	...	...	...	...	...	...	...	4	16	30	34	16	2
Aneurism .....	13	...	...	...	...	...	...	...	1	7	3	2	...	...
Senile Gangrene .....	18	...	...	...	...	...	...	...	...	1	1	7	5	4
Embolism, Thrombosis .....	39	...	...	...	...	...	2	3	4	2	5	16	6	1
Phlebitis.....	1	...	...	...	...	...	...	...	...	1	...	...	...	...
Varicose Veins .....	2	...	...	...	...	...	...	...	...	1	...	1	...	...
Blood Vessels (Other Diseases)	124	...	...	...	...	...	...	...	2	8	24	52	35	3
5. DIS : OF RESPIRATORY SYS :														
Laryngitis .....	9	...	4	1	...	...	1	...	1	1	...	1	...	...
Memb: Laryng: (Not Diphth:)	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Croup.....	1	...	1	...	...	...	...	...	...	...	...	...	...	...
Larynx (Other Dis:)	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Bronchitis .....	1,097	118	67	7	2	...	1	21	58	94	203	296	197	33
Pneumonia { Lobar-Croupous.	290	8	26	8	10	7	7	25	43	50	55	43	8	...
{ Broncho-Lobular.	478	125	165	23	7	1	6	4	13	29	36	54	15	...
"Pneumonia".....	161	7	29	7	5	3	3	8	21	22	19	26	11	...
Emphysema, Asthma .....	17	...	...	...	...	...	...	...	3	1	4	7	2	...
Pleurisy .....	29	...	4	1	1	...	1	2	5	3	7	4	1	...
Fibroid Disease of Lung.....	2	...	...	...	...	...	...	...	2	...	...	...	...	...
Respiratory Dis: (Other) .....	41	4	...	2	2	...	...	1	5	3	6	12	6	...
6. DIS: OF DIGESTIVE SYS:														
Tonsillitis, Quinsy .....	4	...	...	2	...	...	1	...	...	1	...	...	...	...
Mouth, Pharynx .....	8	5	2	1	...	...	...	...	...	...	...	...	...	...
Gastric Ulcer.....	57	...	...	...	...	3	4	6	17	10	10	7	...	...
Gastric Catarrh.....	8	6	...	...	...	...	...	...	...	...	1	...	1	...
Stomach (Other Dis:)	44	21	3	1	...	...	1	1	3	3	3	6	2	...
Enteritis.....	29	...	1	1	...	...	1	2	5	4	9	4	2	...
Gastro-Enteritis.....	19	...	7	1	...	...	...	1	1	4	2	...	3	...
Appendicitis, Perityph : .....	49	...	4	8	6	5	3	3	8	5	4	2	...	1
Hernia .....	46	1	...	...	...	...	...	1	3	7	14	14	6	...
Intestinal Obstruct:.....	29	2	1	1	2	...	2	...	5	1	7	6	2	...
Other Diseases of Intestines ...	21	6	5	...	...	...	1	1	...	3	2	1	2	...
Peritonitis .....	5	...	1	...	1	1	...	1	1	...	...	...	...	...
Cirrhosis of Liver.....	41	...	...	...	...	...	...	2	4	6	14	14	1	...
Liver and Gall Bladder (O.D.).	28	11	1	...	...	...	...	...	2	3	4	4	3	...
Digestive System (Other Dis:)	49	25	3	1	...	...	...	...	1	5	6	5	2	1
7. DIS : OF LYMPHATIC AND DUCTLESS GLANDS.														
Spleen, Disease of.....	1	...	...	...	...	...	...	...	...	...	1	...	...	...
Lymphat: Syst: (Other Dis:)	21	1	...	1	1	...	1	1	4	5	6	1	...	...
Thyroid Body (Other Dis:)	5	...	1	...	...	...	...	...	...	2	...	...	2	...
Addison's Dis: (Dis: of) .....	7	...	...	...	...	...	...	...	...	1	4	1	1	...
8. DISEASES OF URINARY SYSTEM.														
Nephritis Ac.; Uræmia .....	99	1	4	4	1	1	6	10	9	26	21	13	3	...
Ch : Bright's Dis : Albumin : ...	205	...	1	1	1	...	2	5	19	44	65	52	13	2
Calculus .....	4	...	...	...	...	...	...	...	...	1	1	2	...	...
Bladder and Prostate Dis : ...	50	...	...	...	...	...	...	...	1	2	13	19	10	5
Urinary Syst : (Other Dis:)	20	...	1	...	1	...	1	1	5	2	6	3	...	...



TABLE D.

CITY OF MANCHESTER, 1917.—CAUSES OF DEATH IN INFANCY AND CHILDHOOD.

CAUSES OF DEATH	UNDER ONE YEAR			Total under One Year	ONE AND UNDER FIVE YEARS				Total under Five Years
	Under 3 months	3-6 months	6-12 months		1-	2-	3-	4-	
All Causes .....	773	241	415	1,429	468	253	143	90	2,383
Measles .....	...	5	62	67	98	55	24	17	261
Scarlatina .....	1	...	...	1	3	1	3	2	10
Whooping Cough .....	2	3	12	17	13	6	8	2	46
Diphtheria..... (Memb: Croup)	...	2	4	6	11	7	11	4	39
Fever (various forms) .....	...	...	...	...	1	...	...	...	1
Diarrhoeal Diseases .....	66	70	63	199	45	9	4	1	258
Syphilis .....	25	14	11	50	4	1	1	1	57
Tabes Mesenterica and Tuberc. Peritonitis	1	3	7	11	11	10	5	3	40
Tubercular Meningitis .....	1	5	19	25	24	17	7	13	86
Tuberculosis (other).....	4	2	11	17	12	16	10	3	58
Premature Birth .....	256	4	2	262	...	...	...	...	262
Teething .....	...	1	4	5	8	1	1	...	15
Convulsions .....	41	5	11	57	10	5	1	2	75
Brain Diseases (other) .....	2	6	10	18	16	14	7	1	56
Lung Diseases .....	55	57	150	262	168	77	31	20	558
Atrophy, Marasmus .....	110	24	15	149	4	2	...	...	155
Found Dead in Bed (over- laid)	37	8	4	49	...	...	..	...	49
Suffocation .....	4	2	1	7	...	...	...	...	7
Violence (other forms) .....	2	...	...	2	9	15	12	7	45
Ill-defined Causes.....	1	...	...	1	...	...	...	...	1
Unclassified .....	165	30	29	224	31	17	18	14	304

TABLE J, 1917.

INFANTILE MORTALITY IN THE CITY, AND ITS THREE MAIN DIVISIONS.

DEATH-RATES UNDER ONE YEAR PER 1,000 BIRTHS.

CAUSES OF DEATH	City of Manchester	Manchester Township	North Manchester	South Manchester
All Causes .....	111·29	154·29	107·06	99·57
Measles .....	5·22	11·56	3·56	4·03
Whooping Cough .....	1·32	0·89	1·10	1·59
Other Com: Infectious Diseases†	0·62	...	0·27	1·01
Diarrhoeal Diseases .....	15·50	31·57	10·13	13·11
Tubercular Diseases‡	4·13	5·78	2·46	4·47
Convulsions .....	4·44	5·34	3·83	4·47
Other Nervous Diseases§	1·40	1·33	1·37	1·44
Lung Diseases .....	20·40	27·57	21·08	17·72
Premature Birth.....	20·40	24·46	21·36	18·59
Atrophy, &c.	11·60	14·67	14·79	8·93
Suffocation .....	0·55	...	0·82	0·58
Found dead in bed (overlaid) ...	3·82	7·11	2·74	3·31

† These are Smallpox, Scarlatina, Diphtheria, Membranous Croup, and various forms of “Fever,” including the chief forms of Typhus and Typhoid.

‡ These are Phthisis, Tubercular Meningitis, Tabes Mesenterica, and General Tuberculosis (Scrofula).

§ These are Meningitis, and other diseases of the Brain and Spinal Cord.

|| These are such ill-defined causes as Atrophy, Marasmus, Debility, Inanition, &c.

TABLE K, 1917.—CITY OF MANCHESTER. ANNUAL RATES OF MORTALITY PER 1,000 PERSONS LIVING AT ALL AGES, IN THE CITY OF MANCHESTER AND IN ITS STATISTICAL DIVISIONS, FROM CERTAIN DISEASES AND GROUPS OF DISEASES.

CAUSES OF DEATH	City of Manchester	Manchester Township	North Manchester	South Manchester	City of Manchester Average of 10 years 1907-1916
All Causes .....	13·39	20·63	11·62	12·55	16·96
Smallpox .....	...	...	...	...	...
Measles .....	0·36	0·88	0·29	0·27	0·49
Scarlet Fever .....	0·02	0·03	0·04	0·01	0·14
Typhus Fever .....	...	...	...	...	...
Influenza .....	0·13	0·03	0·14	0·15	0·16
Whooping Cough .....	0·06	0·05	0·05	0·07	0·34
Diphtheria and Memb: Croup.	0·08	0·07	0·11	0·07	0·15
Ill-defined Fever.....	...	...	...	...	...
Enteric Fever .....	0·01	0·02	0·01	0·01	0·07
Diarrhoeal Diseases .....	0·37	0·93	0·27	0·28	0·71
Puerperal Fever .....	0·02	0·01	0·03	0·02	0·03
Erysipelas .....	0·01	...	0·01	0·01	0·03
Pyæmia, Septicæmia .....	0·01	0·02	0·01	0·01	0·03
Phthisis (Tuberc: Pulmon:) ...	1·57	3·06	1·21	1·40	1·66
Tubercular Meningitis.....	0·18	0·19	0·16	0·19	0·22
Tuberc: Periton: Tabes Mes:..	0·11	0·23	0·06	0·11	0·13
Tuberculous Dis: (other) .....	0·18	0·29	0·14	0·17	0·18
Alcoholism .....	0·02	0·04	0·01	0·02	0·06
Cancer .....	1·01	1·16	0·94	1·01	0·96
Rheumatic Fever .....	0·06	0·05	0·08	0·06	0·06
Premature Birth .....	0·34	0·53	0·35	0·30	0·55
Nervous Diseases .....	0·57	0·88	0·43	0·57	0·83
Heart and Blood Vessels Diseases	2·29	2·72	2·05	2·33	2·47
Bronchitis .....	1·44	2·70	1·18	1·27	1·70
Pneumonia .....	1·22	2·22	0·98	1·10	1·78
Respiratory Diseases (other) ...	0·13	0·17	0·10	0·14	0·18
Digestive Organs (Diseases of)	0·52	0·60	0·54	0·49	0·73
Urinary Organs (Diseases of)	0·50	0·62	0·43	0·50	0·56
Old Age .....	0·58	0·79	0·50	0·56	0·54

Rates per 1,000 births—Puerperal Fever 1·22, Childbirth 2·18.

	Ancoats	Central	St. George's	Cheetham	Crumpsall	Blackley	Harpurhey	Moston	Newton	Bradford	Beswick	Clayton	Ardwick	Openshaw	Gorton (West)	Rusholme and Kirkmanshulme	Chorlton-upon- Medlock	Hulme	Moss Side	Withington	Levenshulme	Gorton	TOTALS
Complaints to Sanitary Superintendent ...	566	182	1020	1530	139	99	183	117	277	477	67	153	255	188	253	144	509	1544	404	237	74	133	8,551
(Dwelling-houses .....	1747	784	1316	1495	105	847	1105	455	728	341	590	147	707	377	1093	349	760	2307	843	662	227	1253	18,238
Newly-infected Dwelling-houses .....	134	104	212	255	22	46	45	169	278	99	48	60	208	219	155	175	224	501	321	282	156	277	3,990
Cellars .....	1	3	...	190	...	...	...	...	6	...	...	...	...	...	...	1	...	185	3	...	...	...	389
Schools .....	...	...	...	5	...	1	...	...	...	1	...	...	...	...	...	...	3	22	1	1	...	...	34
Factories and Workshops .....	12	10	13	110	...	9	10	...	21	3	...	2	4	...	6	3	4	112	11	2	...	2	334
Lodging-houses .....	2900	4704	4203	3088	4	...	...	15	130	423	85	38	521	5	22	212	5136	3018	173	...	43	5	24,725
Offensive Trades .....	17	3	17	37	...	2	...	2	1	8	...	1	3	...	...	...	...	18	4	4	3	107	227
Dairies and Milkshops .....	444	408	481	471	16	112	99	86	200	113	202	102	352	161	310	303	368	617	227	247	132	271	5,722
Ice Cream Manufactories .....	1282	44	155	6	...	...	3	...	10	19	...	...	59	18	37	2	26	7	...	...	...	...	1,668
Bakehouses .....	67	58	74	136	5	29	52	47	89	22	15	25	64	61	49	128	127	71	118	104	142	126	1,609
Canal Boats .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2,198
Slaughter-houses .....	...	...	...	5	...	1	...	...	1	...	...	...	...	...	...	...	...	2	...	...	...	...	9
Tips for Refuse .....	...	2	...	60	2	6	15	1	1	...	...	...	...	...	...	4	...	1	...	6	...	...	102
Miscellaneous Inspections .....	817	980	206	886	242	87	49	10	663	158	169	71	495	1430	141	614	98	731	68	219	590	549	9,273
Stables, &c. ....	235	113	159	369	76	47	32	33	185	51	24	16	29	67	123	119	143	516	182	77	68	754	3,418
Factories and Workshops by Shop Hours, &c., Inspectors .....	719	5254	756	1636	28	102	139	40	286	102	88	100	528	218	307	399	1434	698	321	221	160	153	13,689
Shops by Shop Hours, &c., Inspectors	344	977	598	208	19	107	228	58	305	178	162	105	522	394	460	699	795	164	108	347	579	539	7,896
Infected Rooms Disinfected .....	1926	446	1354	1558	232	178	207	337	981	769	194	288	781	473	1140	387	649	1560	876	1016	610	703	16,665
Infected Dwellings Re-inspected .....	758	619	1613	1216	198	128	129	421	923	668	364	299	1200	1255	1157	309	1296	1930	1081	659	534	1079	17,836
Drains Tested by Water .....	26	78	6	27	5	13	30	8	46	14	1	12	32	...	16	23	32	22	7	85	8	2	493
Smoke { Observations made .....	56	76	15	21	32	28	6	5	40	25	6	74	28	48	15	7	17	9	...	1	2	12	523
Abatement { Proceedings before Magistrates	5	4	1	2	2	2	5	2	3	1	2	3	4	1	1	1	...	1	...	1	...	2	43
Food and Water { Samples Collected for Analysis	114	380	113	112	31	24	35	68	99	55	22	33	115	163	103	185	363	332	221	233	126	106	3,033
teration { Proceedings before Magistrates	6	33	...	11	...	1	3	6	3	1	...	...	2	2	2	9	11	7	7	42	4	...	*153
Ashpits reported to Cleansing Department for emptying .....	1	...	1	2	...	...	...	...	...	...	...	...	...	1	...	...	1	1	2	...	1	...	10
Receptacles reported to Cleansing Depart- ment for emptying .....	4	3	5	3	...	1	1	1	3	1	...	...	...	1	...	1	5	8	9	1	...	1	4
Notices issued for Abatement of Nuisances.	420	285	625	611	92	122	192	172	302	318	116	143	281	254	284	203	522	721	257	178	296	233	\$6,691
Letters written for Abatement of Nuisances	74	93	83	83	16	24	13	10	52	25	7	46	33	47	20	15	56	56	13	4	6	21	†797
Reports made to Medical Officer of Health	...	...	10	6	1	25	73	4	3	...	...	...	...	...	14	...	3	...	...	9	...	52	200
Legal proceedings taken .....	12	14	17	26	4	1	...	4	4	...	...	...	8	16	...	2	30	10	1	5	...	...	†157
Total Nuisances abated .....	348	239	498	631	40	79	113	178	308	298	93	134	218	301	239	124	442	719	206	132	136	155	5,631

\* 3 Samples procured Outside the City. † 3 cases Infringement of Canal Boats Acts. ‡ In addition to these there were 874 circular letters sent to owners of defective water-closets and ashbins, and 1,066 orders on the Cleansing Department for new ashbins were sent to owners or contractors.

§ Includes 64 notices issued for repairs to Canal Boats.

## REPORT OF THE MIDWIVES SUPERVISING COMMITTEE FOR THE YEAR 1917.

The Midwives Supervising Committee present, for the information of the City Council, the following report of the operations carried on in Manchester during the year 1917 under the Midwives Act, 1902. All the usual tables have been prepared, but are again omitted for reasons of economy.

The number of midwives who gave notice of their intention to practice in Manchester during 1917 was 135; of these, 26 reside without the City. In the course of the year four midwives died, four removed from the area, and one was removed from the Roll of Midwives.

From returns made by the midwives 7,408 births were attended by them. The total registered births in the City numbered 12,841. It will be seen from these figures that about 58 per cent. were attended by midwives, as against 55 per cent. in 1916.

### INSPECTION OF MIDWIVES.

392 visits were paid, and on 170 occasions midwives were interviewed at the Public Health Office. In 5 instances the houses were found dirty, and 12 bags were unsatisfactory and incomplete. Eight registers were found to be not entered up to date. In 1916 the corresponding figures were 342 visits, 168 interviews, 10 dirty houses, 23 unsatisfactory bags, and 11 incomplete registers.

### PUERPERAL INFECTION.

During the year 1917, against an average of 106 cases in the eleven years 1905-16, 54 cases of puerperal infection were notified, of which 22 occurred after abortion or premature labour. Of the abortions, 18 were at the second or third months of gestation, 2 at the fourth month, and 2 at the fifth.

The total fatal cases numbered 15, of which 5 were premature labours, as against an average of 23 in the eleven years 1905-16.

The attack-rate per 1,000 births was 4.21, against 6.36 in 1916, whilst the case fatality per cent. was 27.8, against 22.1 the average for the years 1905-1917.

The mortality from Puerperal Fever per 1,000 births was 1.09, against an average of 1.22 in the preceding 10 years. The mortality per 1,000 births from other accidents of child-birth was 1.9, as compared with 2.3 in 1913, 2.5 in 1914, 2.2 in 1915, and 2.1 in 1916.

The usual figures prepared for Table C are as follows :—

	Number of Cases attended by					
	Midwives		Doctors		Midwife and Doctor	
	Attacks	Deaths	Attacks	Deaths	Attacks	Deaths
1917	23	7	31	8	54	15

Out of 54 cases notified, 7 patients were nursed at home, and 4 recovered; 40 cases were removed to Monsall Hospital and 33 recovered, the case mortality being 17·5. The remaining seven cases were treated in other institutions, and two recovered.

Subsequent visits have been paid to the 39 women who recovered, and, with the exception of three, all were in good health.

The particulars as to the character of the labour and the results for 1917 are :—

	No. of Cases	Recovery	Death
Normal full term labour .. .. .	15	12	3
Abnormal full term labour .. .. .	17	10	7
Abortion or Premature .. .. .	22	17	5

SUSPENSION OF MIDWIVES.

Fifty-nine suspensions of midwives from their work occurred, chiefly on account of their having been in attendance on cases of puerperal infection or other septic conditions.

RECORDS OF CALLING IN MEDICAL AID.

During the year 1917 the number of medical records received was 1,824, as compared with 2,297 in the previous year. The numbers under the various reasons given for having advised medical aid correspond to those in previous years (see table herewith).

NUMBER OF CASES OCCURRING IN 1917 IN WHICH THE MIDWIFE ADVISED THAT A REGISTERED MEDICAL PRACTITIONER SHOULD BE SENT FOR (RULE E 19). ALSO THE NUMBER OF APPLICATIONS FROM MEDICAL PRACTITIONERS FOR PAYMENT OF THEIR FEES FOR ATTENDING CERTAIN EMERGENCY CASES.

Period	Medical aid called in on account of the following causes, as stated by the Midwife	Total	* Application for Fees		
Pregnancy	Abortions, miscarriages.....	12	4		
	Deformed pelvis .....	9	..		
	Loss of blood .....	7	1		
	Other unusual features of pregnancy .....	24	..		
Labour	Presentations {	Head—Malpositions .....	11	1	
		Breech {	In primiparæ .....	2	..
			In multiparæ .....	4	..
			Para not stated .....	30	5
		Transverse .....	4	12	
		Funis .....	19	10	
		Unable to make out .....	11	..	
		Foot .....	7	..	
		Hand .....	6	..	
	Tedious labour {	Forceps used .....	3	52	
		No record as to forceps.....	199	5	
	Placenta..... {	Retained .....	21	7	
		Adherent .....	14	6	
	Membranes retained .....		35	9	
	Rupture of perineum .....		411	109	
	Hæmorrhage.. {	Ante partum .....	28	4	
		Post partum .....	22	5	
		Hæmorrhage—3rd stage.....	4	..	
	Convulsions.....		20	4	
	Complications .....		11	6	
	Premature labour .....		1	1	
Lying-in	Abdominal swellings .....	6	..		
	Foul-smelling discharges.....	1	..		
	Secondary post-partum hæmorrhage .....	..	..		
	Rigor .....	..	..		
	Rise of temperature above 100·4° F. ....	29	3		
	Unusual swelling of breasts .....	4	2		
	Progress unsatisfactory or complications .....	62	6		
Newly born Child	Injuries received during birth .....	4	..		
	Obvious malformations .....	32	1		
	Tongue-tied.....	5	..		
	Feebleness of Child .....	110	8		
	Inflammation of eyes and eyelids.....	409	24		
	Skin eruption .....	67	3		
	Illness from prematurity .....	54	14		
	Malignant jaundice .....	25	3		
	Inflammation about the umbilicus.....	20	..		
	Unspecified or complications .....	81	..		
TOTALS .....		1,824	305		

\* These applications have been classified according to the conditions requiring treatment found by the medical practitioner.

### PAYMENT OF FEES.

Arising out of the summoning of medical aid, 305 applications were received from medical practitioners for payment of their fees. After careful investigation the Committee decided to pay in 241 cases sums amounting to £212. The amount paid in 1916 was £481 4s. 6d. The majority of the 64 rejected applications was owing to the income being above the scale.

In November the scale of incomes was revised in view of the high cost of living, and the following was adopted :—

Man and wife,	35s. per week ;
„	and 1 child, 37s. per week ;
„	and 2 children, 39s. per week ; and advancing 2s. per extra child.

Fifteen applications for fees were received from midwives for attendance on the confinements of the wives and widows of soldiers and sailors, and of other women in need of assistance as a result of the War, and in 13 of these fees were paid, the total amount being £8 5s.

### STILL-BIRTHS.

The total number of still-births reported to the Office during the year was 493, as against 617 in the previous year. Out of the 493 still-births, 292 occurred in the practice of doctors (these are ascertained from the Cemeteries returns) and 201 in the practice of midwives. The percentage of still-born children is 3·7 ; in 1916 it was 3·4.

The summary of causes to which it seemed reasonable to credit the still-births shows the principal numbers to be :—

Definite history of ill-health of the mother	.. .. .	44
Accident to the mother before confinement	.. .. .	39
Shock	.. .. .	19
Breech presentations, full time	.. .. .	12
Premature Births..	.. .. .	10
Worry	.. .. .	10

The still-birth rate was highest in Bradford, St. George's, West Gorton, Ardwick, Ancoats, and Hulme.

### DEATHS OF NEW-BORN CHILDREN.

Notifications of 29 deaths of new-born children before a medical practitioner could be obtained were received and investigated. In 22 instances inquests were held. In 7 cases " Want of attention at birth " was the verdict, and in 13 " Accidental suffocation."

### DEATH OF THE MOTHER.

No cases of death of the mother before a medical practitioner could be obtained were notified during the year.

### CHARGES OF MALPRACTICE, NEGLIGENCE, OR MISCONDUCT.

In considering the various reports submitted to them, the Midwives Supervising Committee found it necessary to make only one report under this heading to the Central Midwives Board. It concerned a midwife who failed to advise calling in medical aid for ruptured perineum. The patient died. The Central Midwives Board found the charges proved, but postponed sentence pending reports on her conduct and methods of practice at the end of three months and six months. These reports having been furnished, the Board considered them fairly satisfactory, and resolved to take no further action.

### WORK OF THE SPECIAL NURSES.

The work done by the two Nurses during the year 1917 has been tabulated, and is as follows :—

Still-births investigated .. .. .	200
Deaths of newly-born infants investigated .. .. .	29
Cases of Puerperal Fever nursed at home .. .. .	7
Nursing visits paid to 7 cases and to patients with raised temperatures .. .. .	273
Old Puerperal Fever cases investigated to ascertain subsequent histories .. .. .	139
Investigation visits to suspicious cases of Puerperal infection .. ..	4
New Puerperal Fever cases investigated to ascertain histories.. ..	54
Nursing visits paid to cases of Mammary Abscess .. .. .	172
„ „ „ „ Houses Infected with Chickenpox..	5
„ „ „ „ „ „ „ „ Measles ..	19
Number of cases of Skin affection in newly-born infants .. ..	80
Nursing visits paid to these 80 infants .. .. .	979
Number of nursing visits paid to cases of Spina Bifida .. .. .	68
Special investigation visits concerning medical records, including visits paid to doctors .. .. .	92
Nursing visits paid for midwives during suspension and when unable to obtain a qualified substitute .. .. .	27
Special investigation into births with a view to checking the practice of midwifery by uncertified women .. .. .	25
	<hr/>
	2,173

On behalf of the Committee,

(Signed) A. W. CHAPMAN.

Town Hall, Manchester,  
29th August, 1918.

*Chairman.*

## INDEX.

	PAGE		PAGE
Abergele Sanatorium, Report of Medical Superintendent . . .	117-123	Enteric Fever . . . . .	15-17
Acute Anterior Poliomyelitis . . .	29	"    bacteriological ex- aminations . . . . .	18
Area of City and districts in acres	1	Erysipelas, incidence of . . . . .	8
Babies' Hospital . . . . .	60, 70-72	Estimated population . . . . .	1
Bacteriological examinations, 18, 76, 95		"    increase of population	1
Baguley Sanatorium—Report of Medical Superintendent . . .	114-117	Excess of births over deaths . . .	1
Bakehouses . . . . .	125, 126	Factory and Workshop Act, 1901 :— Summary of work by In- spectors . . . . .	99-102
Births . . . . .	1	Fertilizers and Feeding Stuffs Act	128
"    Act, Notification of . . . .	58	Fever, Scarlet . . . . .	10-12
"    Illegitimate . . . . .	55-56	"    Enteric . . . . .	15-17
Birth rates . . . . .	1	"    isolation of cases . . . . .	110
Canal Boats Act . . . . .	129	"    Puerperal . . . . .	8, 108, 142
Cerebro-Spinal Fever . . . . .	29	"    Cerebro-Spinal . . . . .	29
Childhood, deaths at . . . . .	138	Food, work in connection with . . . . .	97-99, 128
Child Welfare Centres . . . . .	66-70	Gains and losses in deaths . . . .	4
Cleansing Department, work of	131-132	German Measles and Measles	19-20, 60
Closets, number of . . . . .	131	Health Visitors . . . . .	58-64
Compulsory notifications . . . . .	8	Infantile mortality . . . . .	51-57
Consumption . . . . .	74-90	Cleansing of verminous children . . . . .	61
Crèche Ward . . . . .	73, 74	Neglected children . . . . .	61
Dairies, Cowsheds, and Milk- shops Regulations, work under . . . . .	90-96	Jewish Health Visitors . . . .	62
Deaths . . . . .	133	Notification of Births Act . .	58
"    in public institutions . . . .	1	Statement of work done . . .	63-64
"    from various causes for 5 years . . . . .	3	Homes of the people, death rates in . . . . .	5
"    from infectious diseases for 11 years . . . . .	9	Horse manure and stables . . . . .	99
"    males . . . . .	1	Hospitals, death-rate . . . . .	1, 5
"    females . . . . .	1	House Drainage Department . . .	124
"    in infancy . . . . .	1, 138	Houses let in lodgings . . . . .	124
"    in childhood . . . . .	138	Housing . . . . .	103-105
"    under 1 year of age per 1,000 births . . . . .	1, 7, 139	Housefly, etc. . . . .	99
Death-rates . . . . .	1, 5, 140	Ice Cream . . . . .	97
"    gains and losses . . . .	4	Illegitimacy and mortality . . . .	55-56
Death-rates in the homes of the people, in work- houses, and in hospitals . . . . .	5	Infant life :— Work of the Health Visitors .	58-64
"    specified causes . . . .	140	Infantile deaths . . . . .	1, 138
Density of population . . . . .	1	"    mortality . . . . .	1, 7, 51-57, 139
Diarrhoea . . . . .	22-23, 59	Infectious diseases . . . . .	8
Diphtheria and Membranous Croup . . . . .	12-15	Insanitary dwellings . . . . .	103-105
		Inspection of milkshops . . . . .	96-97
		Institution death-rates . . . . .	1, 5

## INDEX—continued.

	PAGE		PAGE
Jewish Health Visitors .....	62	Sanitary Department, work of	124-130
Marriage rates.....	1	Scarlet Fever .....	10-12
Maternity and Child Welfare Scheme.....	66-70	"    return and recovery cases .....	106
Measles and German Measles	19, 20, 60	School for Mothers.....	68-70
Membranous Croup—see Diphtheria .....	12-15	Scurvy, outbreak of.....	49-51
Meteorological data and Diarrhœa	23	Shops Acts and Orders.....	125
Middens.....	104, 131	Smallpox .....	8, 10
Midwives Act, 1902, Report of Executive Officer .....	142-146	Smoke nuisances.....	129
Milk at reduced cost .....	65, 66	Stables and horse manure.....	99
Milk and Tuberculosis.....	90-96, 98	Statistics, Vital.....	1-7
Milkshops, Inspection of.....	96, 97	Summer Diarrhœa.....	22-23
Model Milk Clauses—Work under .....	90-96	Tables, annual .....	133-141
Monsall Fever Hospital—		Tuberculosis of the Lungs.....	74-90
Report of Medical Superintendent.....	105-114	Tables regarding.....	75-80
Crèche Ward .....	73, 74	Administrative procedure..	76, 77
Mortality, infantile.....	1, 7, 139	Bacteriological examinations	18, 76
"    comparison in divisions	139	Cases treated in Delamere Sanatorium .....	77, 78
Mothers, School for .....	68-70	and artificial Pneumo-Thorax treatment.....	120
Notification of infectious diseases .....	8-18	After-Care Committee.....	83-85
Notification of Births Act.....	58	Tuberculosis Medical Officer's Report .....	81-90
Offensive trades .....	129	Tuberculosis and milk.....	90-96
Ophthalmia Neonatorum .....	24-29	"    and milk clauses.....	95
Outworkers.....	125, 127	"    and bacteriological work	95
Pail-closets .....	104, 131	Typhoid Fever — see Enteric Fever .....	15-17
Percentage mortality in public institutions .....	1	Unhealthy dwellings ....	103-105, 129
Persons to an acre.....	1	Venereal Diseases.....	30-49
Phthisis .....	74-90	Verminous cleansing .....	61
Poliomyelitis .....	29	Vital statistics.....	1-7
Population, estimates of .....	1, 2	Whooping Cough, prevalence...	21
"    natural increase of..	1	Work of Sanitary Department	124-130
"    Civil .....	1	Work of Cleansing Department	131-132
"    density of.....	1	Workhouse death-rate.....	5
Prosecutions for offences .....	128, 130	Working classes, housing of...	103-105
Public institutions, deaths in...	1	Workshops .....	125
Puerperal Fever .....	8, 108, 142	Zymotic diseases.....	8-18
Recorded death rates.....	1		
Return cases of Scarlet Fever..	106		



